National Institute on Drug Abuse

National Pregnancy & Health Survey

Drug Use Among Women Delivering Livebirths: 1992

National Institutes of Health

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Drug Use Among Women Delivering Livebirths: 1992

National Institute on Drug Abuse
Division of Epidemiology and Prevention Research
5600 Fishers Lane
Rockville, Maryland 20857

U. S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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EXECUTIVE SUMMARY

This report provides extensive information on the prevalence and patterns of the prenatal use of common illicit drugs, alcohol, and cigarettes among women delivering live-born infants in the United States during a representative 12-month period. Estimates based on questionnaire responses are presented of the percentage and number of women who used selected substances during their lifetime and in specific time periods over the 12 months preceding delivery. Patterns of substance use by race/ethnic group, age, and other characteristics of the mother, and trends in the rates of use over the past year, are examined. In addition, estimates made from tests of urine specimens for illicit drugs are compared with rates of recent drug use based on self-reports.

The findings in this report stem from a survey of a national probability sample of women delivering live births in hospitals within the contiguous 48 States. Approximately 4,000,000 women deliver live-born infants annually in the United States, with 99 percent delivering in hospitals. Information was collected in 52 participating hospitals on women delivering between November 3, 1992 and August 18, 1993. A questionnaire covering substance use was completed by 2,613 women, or 78 percent of the eligible women in the sample. Urine specimens routinely collected by hospital staff at admission were tested under two different procedures. Using a "blinded" procedure, one portion of the specimen was tested for all women selected for the survey without seeking their permission. This was done in a manner that prevented linking test results with data obtained from survey participants. If the remainder of the specimen was sufficient, the "nonblinded" portion was tested only for questionnaire respondents with their consent, and the results were linked to the questionnaire data. The blinded test results provided a measure of non-response bias, while the nonblinded results were used to assess underreporting of recent drug use. Variation in both the questionnaire response rates and the availability of urine test results was associated with age and race/ethnicity.

The following are some of the key findings from the report:

- An estimated 5.5 percent, or 221,000 women, used an illicit drug at least once during pregnancy.

- Marijuana was used during pregnancy by an estimated 2.9 percent or 119,000 women; cocaine by 1.1 percent or 45,000 women; and a psychotherapeutic medication without physician orders by 1.5 percent or 61,000 women. Crack was the form of cocaine use most frequently reported. Observed rates of use for each of the other illicit drugs included in the survey appeared to be much lower.

- Black women had significantly higher rates than white women for use of any illicit drug and cocaine, and significantly higher rates than Hispanic women for use of any illicit drug and marijuana. However, the estimated number of white women using any illicit drug or marijuana was substantially greater than the number in other race/ethnic groups. In comparing differences in illicit drug use among age groups, the rates of crack cocaine use in women ages 25-29 and 30 and older were significantly higher than the rate for those under age 25. Differences by age within race/ethnic groups appeared to vary by drug, but the statistical significance of these differences was not determined.

- It was estimated that 18.8 percent of 757,000 women used alcohol at some time during pregnancy, and 20.4 percent or 820,000 women smoked cigarettes. The rate of alcohol use among white women was significantly higher than the rate for Hispanics, while rates of cigarette use for both whites and blacks were significantly higher than the rate for Hispanic women. In regard to age, rates of alcohol use for women ages 25-29 and 30 and older were both significantly greater than the rate for women under age 25. For cigarette use, differences between rates among the three age groups were not statistically significant.

- Overall and within race/ethnic groups, rates of use during pregnancy of marijuana, cocaine, and cigarettes often were significantly higher for women who were not married, currently not employed, had less than 16 years of formal education, or relied on public aid for payment of the hospital. This pattern was reversed for alcohol use, with significantly higher rates found in women who were currently employed, had completed college, or had private insurance.

- Compared with use in the 3 months before conception, marked reductions were seen by the second trimester in the rates of marijuana, cocaine, alcohol, and cigarette use, although the magnitude of the changes varied by substance and by race/ethnic group, and the decrease was not always statistically significant.

- An estimated 25 percent of those who used alcohol in the 3 months before conception continued use into the third trimester, and 65 percent of the women who reported smoking cigarettes in the months before pregnancy continued smoking into the last trimester.

- Of those who reported no illicit drug use during pregnancy, only 6 percent had used both alcohol and cigarettes. In contrast, 32 percent of those using at least one illicit drug during pregnancy also used both alcohol and cigarettes.

- Comparison of the urine test results for questionnaire respondents with those for all sample women found no significant differences in the rates of positive tests for marijuana or cocaine. However, in comparing rates based on self-reported use with test results, significant underreporting of recent cocaine use among black women was found. It also appeared that recent use of (licit or illicit) opiates was underreported, but the specific drugs used could not be determined.

It must be recognized that results from this survey may have underestimated true rates of use, due to inaccurate or incomplete reporting by the respondent. Even so, the findings clearly indicated that a substantial number of newborns were exposed to harmful substances in utero. While the patterns of substance use among subgroups of women have been observed in other studies, the initial limited analysis of associations of substance use with various demographic characteristics conducted for this report did not adequately investigate the complex interrelationships among the many factors that might have identified those subgroups at most risk for substance abuse. For example, although in aggregate there were differences in the rates of use of specific substances among the major race/ethnic groups, it was clear that rates varied substantially by age within groups, and that controlling for measures of socioeconomic status often eliminated significant differences in use between race/ethnic groups. Thus, more extensive multivariate analysis must be carried out to better assess the importance of race/ethnicity and the other individual demographic measures in combination as risk markers for substance use during pregnancy among subpopulations.

1. INTRODUCTION

Sponsored by the National Institute on Drug Abuse (NIDA), the National Pregnancy and Health Study (NPHS) was conducted to develop national estimates of the prevalence and patterns of the use of illicit drugs, cigarettes, and alcohol during pregnancy among women delivering live births. This introductory chapter provides an overview of the survey, highlights important background, summarizes the survey objectives and design, and presents key findings from the survey.

1.1 Overview of the NPHS

The National Pregnancy and Health Survey was motivated by the growing concern about the extent of the use of illicit drugs and other harmful substances by women during pregnancy. Current data collection programs were perceived as inadequate to assess this problem from a national view, and the NPHS was intended to fill this information gap.

The NPHS is the first survey specifically designed to provide direct information at the national level on the prevalence and patterns of prenatal drug use. A two-stage probability sampling scheme was used, with selection of hospitals and then women within hospitals. Estimates from the survey incorporated adjustments for questionnaire nonresponse and permitted representation of all U.S. women delivering live-born infants during a 12-month period. Data were collected on substance use over the entire period of the pregnancy using a self-administered questionnaire, and the responses were concealed from the interviewer. Fifty-two individual hospitals participated in the survey, and questionnaires on substance use were completed by 2,613 women or 78 percent of the eligible sample of women in these hospitals. Although the procedures used encouraged completeness and accuracy in reporting of substance use, there remained some potential for bias in the estimates developed from the survey due to nonparticipation and misreporting.

1.2 Background and Prior Research

The current drug epidemic has affected millions of women of childbearing age in the United States. For example, from the 1992 National Household Survey on Drug Abuse, any illicit drug use during the past month among women age 15-44 was estimated to be 6.8 percent (3,991,790 women). Women age 18-34 deliver about 85 percent of the live births in the U.S. annually. It is of note that, although this subgroup represents only 57 percent of all women of childbearing age, they comprised 71 percent of those who reported recent illicit drug use in the 1992 survey. Thus, the highest rates of recent illicit drug use were among women in the age range with the highest fertility rates. While such results from the past national household surveys are suggestive, these surveys were not designed to directly assess prenatal drug use and cannot be taken to represent substance use among pregnant women.

There have been many direct investigations of maternal substance use during pregnancy over the past decade. Several investigations or surveys have been attempts to provide some assessment of this subject from a national perspective, although only one of these has been based on a national probability sample. Others have used limited, purposely-selected samples, and estimates from these studies do not permit inference to the country as a whole. Most investigations of drug use in pregnancy have been limited in geographic scope and often, to specific medical facilities or patient populations. It is also of note that these prior studies have not provided adequate data on patterns of use before and during pregnancy, in terms of changes in the frequency, amount, or timing of use. As pregnancy itself may motivate changes in drug use behavior, knowledge of such patterns among subgroups of pregnant women is important in evaluating the extent of substance use and in planning effective interventions. Thus, while prior research has contributed useful information on the range and variation in prenatal drug use among population subgroups, results from these studies are not directly comparable to those from the NPHS. The findings and methodology of selected recent investigations are summarized next.

1.2.1 Considerations in Interpreting the Results from Prior Studies

Prior studies of maternal substance use have varied considerably in regard to the population to which the findings pertained, the scope of substance use, and methods employed for identification of substance use. These three aspects are described below and they will be highlighted in reviewing prior research.

- **Study Population.** The selected studies differed in regard to the populations that they were designed to represent: national, State, local, or the patients of a single institution. Many of these investigations did not intend that their results be generalizable to a wider obstetric population. Due to aspects of the design or execution, a study may not adequately represent any general obstetric population, only the institutions or patients included in the study. Some aspects of execution that limit generalizability are high rates of nonresponse, and estimation that does not adjust for important differences in characteristics between the study subjects and the target population.

- **Substance Use.** The studies often differed in their scope of substance use. Thus, different substances may have been included in categories denoted as "any drug" or "all drugs." Another issue is the classification of a substance as "licit" or "illicit." This often pertained to those prescription drugs that are frequently drugs of abuse (e.g., benzodiazepines). Some studies attempted to distinguish between use under physician's orders (licit use) and nonprescribed use (illicit use).

- **Methods of Substance Use Detection.** Prior studies have employed various approaches for identification of substance use, such as interview, self-administered questionnaire, intake history, urine testing of mother and infant, and testing of infant cord blood and meconium. These methods are associated with differences in sensitivity and specificity, in timespan over which use can be detected, and in coverage of use over the period of pregnancy. More than one approach may have been used, and prevalence rates may have been based on individual methods or a combination of methods.

1.2.2 Summary of Selected Recent Studies

The studies reviewed include one national survey, studies that collected information on women in multiple sites across the country, State level studies, and county and hospital level studies. These specific investigations were selected because they were recent and have been frequently cited. This section briefly describes the studies and reports their findings, focusing on any substance use and the use of tobacco, marijuana, and cocaine.

Estimating Substance Use at the National Level

The 1988 National Maternal and Infant Health Survey (NMIHS) has been the only survey in which estimates of maternal substance use were based on a probability sample of U.S. births. From 1989 to 1991, this mail survey collected self-reported information on substances used during pregnancy from a national sample of 9,953 women who delivered live-born infants (Davis). Researchers identified the women from birth records. Women could respond up to 2 years after they gave birth; the response rate was about 90 percent. It was estimated that, during pregnancy, 25.4 percent of the women used tobacco, 22.2 percent used alcohol, 2.5 percent used marijuana, and 0.4 percent used cocaine.

Two other efforts have attempted to estimate maternal substance use in the U.S. However, generalization of results to the Nation as a whole is questionable, since a strict probability sampling design was not used.

In a widely cited article, Chasnoff (1989) reported the results of his 1989 review of discharge records of 36 purposely-selected hospitals. Neither the number of discharge records reviewed nor the data collection period was reported. There were differences among the hospitals on the number of women for whom records were available and on methods to identify substance use (e.g., self-report, urine test). Chasnoff found that the rate of prenatal use for any illicit drug (defined as use of heroin, methadone, cocaine, amphetamines, phencyclidine, or marijuana) in these hospitals was about 11 percent, ranging from under 1 percent to 27 percent. He also reported that, depending on the hospital, between 10 percent and 17 percent of the women used cocaine during pregnancy. The observation was made that prevalence seemed to vary by the rigor of the methods that hospitals used to detect substance use.

In a second study attempting to assess prenatal exposure in the U.S., the U.S. General Accounting Office conducted a detailed review in 1990 of the medical records of mothers and their newborn children at 10 hospitals in 5 large cities: Boston, Chicago, Los Angeles, New York, and San Antonio (U.S. General Accounting Office 1990). The selected hospitals either served a high proportion of low-income patients or received referrals for patients with potentially complicated births. The detection methods varied by hospital, as did the criteria for performing substance use screening. A child was considered drug-exposed if medical records indicated that: (1) the mother reported substance use; (2) a urine test for the mother or infant was positive for a substance; (3) the infant had drug withdrawal symptoms; or (4) the mother was diagnosed as drug dependent. It is unclear as to which drugs were included in the review, except that it excluded alcohol. Based on the information entered in a random sample of records relating to deliveries in the first half of 1989, the study estimated that the rate of exposure to any drug was 8.7 percent. Estimates varied by hospital from 1.3 percent to 18.1 percent. Cocaine exposure ranged from 0.3 percent to 11.6 percent. Variation in rates was associated with the frequency and methods of substance use screening in the study hospitals.

Studies Estimating Substance Use at the State and Local Level

Several large studies conducted at the State or local level have been reported within the past 5 years. All of these studies sampled women in hospitals or other medical settings, and most used urine testing to detect substance use during pregnancy. With the exception of two studies, the specimens were collected at the time of admission for delivery. The studies differed substantially on their rates for any substance use during pregnancy, from about 4 percent to 32 percent.

State Level Studies. Three studies reviewed were conducted at the State level. In California, Vega et al. (1993) tested the urine of 29,494 women admitted to maternity hospitals during an 8-month period in 1992. Of the 297 hospitals with 10 or more births per year, 202 hospitals were chosen for the study by systematic sampling. Hospital personnel collected urine specimens from all women admitted for delivery until the sample size required for a given hospital was achieved; the proportion tested was unreported. Based on the urine test results, it was estimated that 11.4 percent of women in the State had recently used one or more of the following substances: alcohol, amphetamines, barbiturates, benzodiazepines, marijuana, cocaine, methadone, opiates, or phencyclidine. Of the women who tested positive, 3.5 percent had positive results for one or more illicit drugs, 1.9 percent tested positive for marijuana, and 1.1 percent tested positive for cocaine. Also, 6.7 percent of the women tested positive for alcohol and 1.7 percent had positive tests for prescribed drugs (amphetamines, barbiturates, benzodiazepines, methadone), or opiates (morphine and codeine). In addition, information on tobacco use was obtained by self-report; 8.8 percent of the women reported current use of tobacco products.

Another statewide study was conducted in South Carolina. In 1990 and 1991, Nalty tested urine specimens from 3,766 women (89.7 percent) who delivered during a 6-week period in a sample of 24 nonmilitary hospitals (Nalty 1991). The sample hospitals were selected from a total of 49 in the State to represent each of 11 types in all 4 prenatal care regions. In addition, meconium specimens were tested for 829 (66.4 percent) of the infants delivered at 3 large hospitals. Based on both detection methods, Nalty found that 25.8 percent of the women had positive test results for alcohol or at least one other licit or illicit substance (amphetamines, barbiturates, benzodiazepines, cocaine, marijuana, methadone, methaqualone, opiates, phencyclidine, or propoxyphene). Nalty also estimated that, based on urine testing, 2.5 percent of the women had recently used marijuana and 0.8 percent had recently used cocaine.

In Rhode Island, Hollinshead et al. (MMWR 1990) tested the urine of 465 women in active labor admitted to 8 hospital maternity services in the State during a 17-day period in 1989. Test results covered 65.2 percent of the births in the State during that period. The women included in the study were similar to other women in Rhode Island who delivered during the same time period when compared on race, parity, insurance, and hospital; however, there was a disproportionately large representation of women under age 25 in the study group. The researchers found that 7.5 percent of the women tested positive for cocaine, opiates, marijuana, or amphetamines, 3.0 percent tested positive for marijuana, and 2.6 percent tested positive for cocaine.

Two other studies that were reviewed collected information on substance use during pregnancy from limited samples of women in multiple areas across a given State. Over the course of 2 weeks in 1989, George et al. (1991) collected urine specimens from a random sample of 2,970 Alabama women visiting public health maternity clinics or a university clinic that specialized in obstetric complications. The response rate was not reported. Assuming that a positive urine test indicated illicit drug use, the researchers found that 11.0 percent of pregnant women had recently used at least one of the following: cannabinoids, cocaine metabolites, opiates, amphetamines, or barbiturates. For individual drugs, 9.3 percent of the women tested positive for marijuana and 1.4 percent tested positive for cocaine.

Madry et al. (1990) developed estimates of substance use during pregnancy in selected Texas hospitals for 1988. Information was collected on self-reported use from 1,401 women admitted for delivery to the 6 largest public hospitals in Texas. In addition, umbilical cord blood specimens from their newborns were tested for specific drugs. The women studied represented 83.4 percent of the women giving birth at the six hospitals during the study period. The researchers found that 18.5 percent used alcohol or illicit drugs (cocaine, methamphetamine, or heroin) during pregnancy, based on the combined results from self-reports and blood testing. The study indicated that 6.9 percent of the women used some illicit drug and 2.3 percent used some form of cocaine during pregnancy. From self-reports alone, about 19 percent used tobacco and 14.1 percent used alcohol.

Local Level Studies. Other studies of note were conducted at the hospital or county level. In general, these studies produced a broader range of estimates of prenatal substance use than those described earlier.

In 1990, DeVane et al. (1991) tested the urine of 598 (60.3 percent) women admitted to the labor and delivery units of 26 hospitals in Orange County, California during a 7-day period. The distributions of those tested appeared to differ from those not tested in race/ethnicity and age. The urine collection rate by hospital ranged from 21 to 100 percent. These researchers found that 3.4 percent of the women tested positive for one or more substances (alcohol, cocaine, opiates, cannabinoids, benzodiazepines, amphetamines, or phencyclidine). Some 1.6 percent tested positive for alcohol and 1.9 percent tested positive for illicit drugs. In regard to specific illicit drugs, 0.7 percent of the women tested positive for marijuana and 0.4 percent tested positive for cocaine.

In Pinellas County, Florida in 1989, Chasnoff et al. (1990) tested the urine of 715 (100 percent) women who enrolled in prenatal care at all 5 of the county public health clinics and at 12 of the 49 private obstetrical practices in the county during a 1-month period. Some 14.8 percent of the women tested positive for alcohol, opiates, cocaine, or cannabinoids at the time of enrollment, 13.3 percent tested positive for at least one illicit drug, 12.0 percent tested positive for marijuana, and 3.4 percent tested positive for cocaine.

In a frequently cited study of substance use in a large metropolitan public hospital, Zuckerman et al. (1989) collected both self-reported information and urine specimens from 1,226 women recruited from the prenatal clinics of Boston City Hospital from 1984 to 1987. Questionnaires and urine tests were obtained from each woman both on the first visit for prenatal care and at admission for delivery. Both sets of data were obtained for 63.5 percent of all eligible patients. The study participants were comparable to the women with incomplete data, or those lost to follow-up, on age, ethnicity, income, education, marital status, place of birth (U.S. or other country), hospitalization during pregnancy, and type of payment for medical care during pregnancy. Combining results from self-reports and urine test results, the researchers found that 27.0 percent of the women used marijuana at some time during pregnancy, 18.4 percent of the women used cocaine, and 32.1 percent of the women used either marijuana or cocaine, or both, during pregnancy.

1.3 Summary of Survey Objectives and Design

This report presents findings that address the following objectives of the National Pregnancy and Health Survey:

- To provide national estimates of the prevalence of licit and illicit drug use during pregnancy among women delivering live-born infants; and
- To describe patterns of prenatal substance use among demographic subgroups of women and over time periods before and during pregnancy.

For the survey, women delivering live-born infants were selected from obstetric admissions to a sample of hospitals located within the contiguous 48 States. Hospitals with less than 200 births annually, and all federally-owned hospitals except those of the Indian Health

Service, were excluded from the sampling frame. The sample design provided for generating estimates of prenatal substance use with specified precision for the Nation as a whole, separately for each major race/ethnic group, and separately for deliveries in U.S. metropolitan areas. The precision requirements called for sample sizes sufficient that prevalence estimates as low as 5 percent would have Relative Standard Errors of no more than 30 percent for whites and blacks, and no more than 35 percent for Hispanics. Hospitals in metropolitan areas with high proportions of Hispanic residents were oversampled to meet the desired precision level of estimates for this ethnic group. Sample sizes under this design did not permit the production of reliable estimates for States or regions of the country.

Information on demographic and socioeconomic characteristics, obstetric history and drug treatment was obtained in a interviewer-administered questionnaire, while data on substance use before and during pregnancy were collected through a questionnaire completed by the respondent and concealed from the interviewer. Consent to abstract the mother's and infant's medical records was sought from each questionnaire respondent. Urine specimens collected routinely by the hospital on obstetric admissions were tested for selected drugs. Finally, in a subsample of six hospitals, hair specimens were requested from questionnaire respondents to evaluate the potential of hair as a source of toxicological data in future studies.

Additional information on the design and conduct of the survey is provided in chapter 2 and appendix A.

Special Issues

In addition to the content and format of data for the survey, it was necessary to address a variety of related issues that affected the survey design and methodology. One of these was the development of procedures that would both permit achievement of the survey objectives and be acceptable to the hospitals. Many of the sample hospitals agreed with the need for the survey but were concerned about the burden on their staff and patients. Hospital management also wanted strong safeguards against the identification of individuals participating in the survey and against the disclosure of survey data, especially the urine test results. Another important issue was achieving the desired levels of precision for estimates within operational limitations. These issues and their resolutions are discussed in greater detail in appendix A.

Advisory Panel

Early in this project, an advisory panel of experts was assembled to help guide the design and implementation of NPHS. The members of the panel were selected for their experience in the epidemiology of maternal substance use and for their expertise in clinical and statistical issues involved in the study plan. Following an initial day-long planning session, the members of this advisory panel reviewed the study data forms as they were developed. Their advice also was sought, both individually and collectively, on data collection plans for different study components, on the analyses and on drafts of this final report. Panel members are listed in appendix D.

1.4 Summary of Key Findings

Approximately 4 million women deliver live-born infants annually in the U.S., with 99 percent delivered in hospitals. Approximately 65 percent of the mothers are white, 16 percent are black, 15 percent are Hispanic, and less than 4 percent are from other race/ethnic groups. In regard to age, about 5 percent of the women are under age 18 at the time of delivery, 86 percent are age 18-34, and about 9 percent are age 35 or older.

Estimates of substance use during pregnancy among mothers of newborns were developed primarily from responses to a self-administered questionnaire. This questionnaire was completed by 2,613 (78.2 percent) of 3,340 eligible women selected for the survey sample from 52 hospitals located throughout the U.S. The 2,613 respondents represented 86.9 percent of the women who actually could be approached to request participation (some women were discharged before they could be contacted and others were experiencing health problems). Illicit drug use covered in the survey included the use of marijuana and hashish, cocaine (crack and other forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, and the nonmedical use of four classes of prescription psychotherapeutic medications: amphetamines, sedatives, tranquilizers, and analgesics. Data were also obtained on the use of alcohol and cigarettes, and on the use of the four classes of prescription psychotherapeutics under physician orders. The questionnaire was structured to permit estimation of use for periods before pregnancy and during each trimester of the pregnancy, in order to identify trends. In a companion interview, information was collected on a number of sociodemographic characteristics of the mother, so that contrasts in patterns of use among subpopulations might be examined. Results from tests of admission urine specimens for specific drugs were analyzed to provide some assessment of potential bias in the survey estimates of substance use due to nonresponse and inaccurate reporting. Hair specimens were collected from questionnaire respondents in a subgroup of hospitals to evaluate this method of obtaining toxicological test data; these specimens had not been analyzed at the time of this report.

Key findings from the survey are summarized in this section of the report. The patterns and trends cited are based on observed differences between estimated rates for different population subgroups. Most, but not all, of the comparative differences cited here were found to be statistically significant. Detailed findings from the survey are found in chapter 4.

1.4.1 Prevalence and Patterns of Self-Reported Maternal Substance Use

Overall Estimates of Substance Use during Pregnancy

Estimates of use during pregnancy were generated for each specific substance included in the survey for the total sample, for major race/ethnic groups, and for age groups. There were clear differences in rates of use among major race/ethnic groups for a number of substances, but few notable differences among age groups were found.

- An estimated 5.5 percent, or 221,000 women, used an illicit drug at sometime during pregnancy.

- Marijuana was used during pregnancy by 2.9 percent or 119,000 women; cocaine by 1.1 percent or 45,000 women; and psychotherapeutics without physician orders by 1.5 percent or 61,000 women. Observed rates of use in pregnancy for each of the other illicit drugs included in the survey were much lower.

- Black women had significantly higher rates than white women for use of any illicit drug and cocaine, and significantly higher rates than Hispanic women for use of any illicit drug and marijuana. However, the estimated number of white women using any illicit drug or marijuana was substantially greater than the number in other race/ethnic groups. In comparing differences in illicit drug use among age groups, the rates of crack cocaine use in women age 25-29 and age 30 and older were significantly higher than the rate for those under age 25. Differences by age within race/ethnic groups appeared to vary by drug, but the statistical significance of these differences was not determined.

- Crack was the form of cocaine use most frequently reported, primarily due to the high rate of crack use among black women. It was estimated that about 35,000 women used crack cocaine during pregnancy.

- It was estimated that 18.8 percent of 757,000 women used alcohol at some time during pregnancy, and 20.4 percent or 820,000 women smoked cigarettes. The rate of alcohol use among white women was significantly higher than the rate for Hispanics, while rates of cigarette use for both whites and blacks were significantly higher than the rate for Hispanic women. In regard to age, rates of alcohol use for women age 25-29 and age 30 and older were both significantly greater than the rate for women under age 25. For cigarette use, differences between rates among the three age groups were not statistically significant.

- Significantly higher total rates of any illicit drug use and cigarette use were associated with less than five prenatal visits. Women delivering in the largest hospitals had significantly higher rates of cocaine use than those delivering in smaller hospitals. Higher rates of cigarette use during pregnancy were associated with lower income, while significantly higher rates of alcohol use were found in the highest income group.

Patterns of Substance Use within Race/Ethnic Groups

Race/ethnic group is often reported as a correlate of substance use, as it was in this survey. However, race/ethnic group is a broad social categorization, and important differences within major race/ethnic groups in the rates of substance use were found by age and by a number of other sociodemographic characteristics of the mother.

- Although the statistical significance of comparisons by age within race/ethnic groups was not determined, further investigation of substance use during pregnancy by comparing groups based on race/ethnicity, age, and substance appears warranted. For example, among white women, rates of marijuana and cigarette use were highest in those under 25 years and declined with age. In contrast, the highest rates for these substances among black women were observed in persons age 30 and older. The highest rate of cigarette use for Hispanics also was found in this oldest age group.

- Rates of cocaine use among white and Hispanic women were less than 1 percent in all age groups. The observed rate was less than 1 percent in black women under 25 years, but 10.8 percent in those age 30 and older. The rates for blacks were significantly higher than the rates for Hispanics and whites among women age 25 and older.

- Rates of alcohol use in pregnancy appeared to increase with age among all three race/ethnic groups; the highest rates of alcohol use were observed for white women and were significantly higher than the rates for Hispanic women in all three age groups.

- Significant differences in total rates and in rates for race/ethnic groups were often observed between categories of several sociodemographic variables. Generally, rates of use of marijuana, cocaine, and cigarettes were higher for women who were not married, currently not employed, had less than 16 years of formal education, and relied on public aid for payment of the hospital. This pattern was reversed for alcohol use during pregnancy, with significantly higher rates observed among employed women, those with 16 years or more of education, and those with private insurance. Although these patterns of rates by demographic categories were often similar for all race/ethnic groups, some significant differences in rates between race/ethnic groups were still seen within the same demographic category.

Trends in Substance Use over Time

Estimates of substance use for the total sample were made separately for the 3 months before pregnancy and for each trimester of the pregnancy. This permitted identification of significant changes in substance use behavior after women became aware of their pregnancy. For alcohol and cigarette use it was also possible to estimate the proportions of those women using these substances before their pregnancy who continued use into the third trimester of their pregnancy.

- Compared with use in the 3 months before pregnancy, marked reductions in rates were seen in the use of marijuana, cocaine, alcohol, and cigarettes by the second trimester. Generally, the magnitude of changes in rates over the pregnancy varied by specific substance and race/ethnic group, and the decrease was not always statistically significant.

- An estimated 24 percent of those using alcohol in the 3 months before conception continued use into the third trimester, and 65 percent of those who were using cigarettes prior to their pregnancy continued smoking into the last trimester.

Multiple Drug Use

The data were sufficient to make observations on the combined use of alcohol or cigarettes with certain illicit drugs during pregnancy.

- Of those women who used no illicit drugs during pregnancy, an estimated 71 percent also did not use alcohol or cigarettes, while only 6 percent used both alcohol and cigarettes during pregnancy. In contrast, of the women who used one illicit drug during pregnancy, 26 percent had no prenatal use of alcohol and cigarettes, while 32 percent used both alcohol and cigarettes during pregnancy.

- Of those women who used both alcohol and cigarettes during pregnancy, 20 percent also used marijuana while pregnant and over 9 percent also used cocaine.

1.4.2 Results of Toxicological Testing

Urine specimens collected routinely at hospital admission were tested anonymously and without seeking the woman's consent for 55 percent of the sample in the 47 hospitals that participated in this component (referred to as the "blinded study"). In addition, specimens were tested with explicit consent for 45 percent of the women who completed the questionnaire on substance use in all 52 sample hospitals (referred to as the "nonblinded study"). Weighted estimates from each set of test results were generated to provide measures of recent illicit drug use independent from those estimates that were based on self-report. Comparisons were then made between the estimates from the two urine tests and between estimates from urine tests and from self-reported substance use to assess the potential bias from questionnaire nonresponse and inaccurate reporting.

- Comparison between estimated rates based on nonblinded and blinded test results did not indicate that questionnaire respondents differed significantly from the total sample in rates of recent marijuana or cocaine use.

- Comparison between estimated rates based on self-reports of use within the 3 days preceding admission and nonblinded urine test results indicated significant underreporting of recent cocaine use by black women. Also, underreporting of opiate use was suggested, although the statistical significance and the specific drugs used could not be determined.

- For the evaluation of hair testing, specimens were collected on 349 (83 percent) of the 420 women selected for the survey in 6 of the participating hospitals. Providing that other testing criteria are met, the high compliance rate suggests that this method might provide a useful source of toxicological data in future studies.

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2. DESIGN AND METHODOLOGY

The design and methodology of the NPHS is summarized in chapter 2. Descriptions are provided of the sample design, estimation, and tests of significance (section 2.1); data collection (section 2.2); and response rates (section 2.3). Greater detail on these aspects, and a history of the development of the survey, are given in appendix A. Details of the urine and hair collection are also described in appendix A, and the results of the urine testing are reviewed in appendix B.

2.1 Sample Design, Estimation, and Hypothesis Testing

This section first discusses the various aspects of the sample design including construction of the sampling frame, stratification, and sample selection. Next, the development of the sample weights and the construction of estimates are described, and the procedure for computing confidence intervals for the estimates is indicated. Finally, testing to identify differences between prevalence rates that achieved statistical significance is summarized. A detailed technical discussion of the development of the NPHS sample is found in appendix section A.2, and the technical details of estimation and hypothesis testing are described in appendix section A.10.

2.1.1 The NPHS Sample

Overview of the Sample Design

The primary objective of the NPHS was to produce annual estimates of the percentages and numbers of mothers of newborns in the U.S. who used selected licit and illicit substances before and during pregnancy. To make the survey feasible to administer, the sample was selected from those women delivering live-born infants in hospitals in the contiguous 48 States. The sample was designed to provide estimates at the national level with specified levels of precision for all mothers of newborns and separately for black, Hispanic, and white mothers, and for women delivering in metropolitan area hospitals. Provision of separate estimates for deliveries in nonmetropolitan areas, regions, or States was not included in the final design. (Refer to appendix A for details of the sample design.)

A two-stage sampling procedure within strata was used, with selection of hospitals in the first stage and sampling of mothers within the chosen hospitals at the second stage. Within the selected hospitals all women delivering live-born infants were eligible for the survey except for those women who spoke neither English nor Spanish.

The Sample Frame and Selection of Sample Hospitals

The sample frame was a subset of the hospitals found in the 1990 SMG Hospital Market Data Base, compiled by the SMG Marketing Group of Chicago from reports that all hospitals are required to file with State health planning agencies. The subset of hospitals comprising the frame for the NPHS consisted of all hospitals located in the contiguous 48 States, excluding hospitals with less than 200 births annually and excluding all Federal Government hospitals except those operated by the Indian Health Service.

After these exclusions, it is estimated that the NPHS sample represented coverage of 91 percent of the target population. This is the cumulative result of approximately 99 percent of births occurring in hospitals, the sample frame representing about 94 percent of births delivered in all U.S. hospitals, and roughly 98 percent of the population speaking either English or Spanish.

The hospitals on the sampling frame were assigned to one of three sample strata: metropolitan area hospitals in counties with a high concentration of Hispanics, other metropolitan area hospitals, and nonmetropolitan hospitals. These strata were chosen to permit oversampling of hospitals in areas with large Hispanic populations. In addition, this stratification allowed control of the number of hospitals sampled from nonmetropolitan areas, as data collection in such hospitals was relatively more costly than in metropolitan area hospitals.

Hospitals were selected with probability proportionate to size, using the number of births in 1989 as the measure of size. Prior to sample selection, hospitals that did not meet the minimum size criterion were grouped with other nearby hospitals, so that in combination a cluster of hospitals would achieve the minimum size. The minimum size criterion was based on the number of expected deliveries required to achieve the planned sample of women within the planned time of data collection at the hospital. Thus, a hospital cluster, as defined for this survey, consisted of one or more hospitals that in total represented a specified minimum annual number of births. The final sample consisted of 37 hospital clusters containing 60 individual hospitals. Four nonmetropolitan area hospital clusters with six individual hospitals were included.

Recognizing that some of the hospitals selected for the survey would refuse to participate, a substitution procedure was developed. If the refusing hospital represented more than roughly a third of the births expected in a sampled cluster of hospitals, a replacement hospital was sought. Substitute hospitals were chosen from the same State and matched as closely as possible by annual number of births, the percentage of black and Hispanic population in the area of the refusing hospital, and geographic proximity to the refusing hospital. When a small hospital was not replaced, the targeted sample of women was chosen from the remaining hospitals in the cluster. From the original sample of 60 individual hospitals, 13 hospitals from 12 different hospital clusters were replaced. An additional eight hospitals from multiple-hospital clusters that refused were considered too small to warrant the high cost of replacement. The substitution process had the potential for introducing a small degree of bias into the survey estimates, to the extent that women delivering in the small hospitals not replaced were different in terms of substance use from the women who were sampled in their stead.

Selection of Sample Mothers within a Hospital

The sample of mothers for the survey was selected from women delivering live-born infants as listed in the delivery log at each participating hospital. On average, it was planned to select 85 women from each metropolitan area hospital cluster and 56 women from each nonmetropolitan area cluster. The women were selected each working day by the interviewer using a systematic random sampling procedure. The sampling rate was chosen to be approximately self-weighting. However, it was necessary at times to depart from the planned sampling rate when the actual number of births in a hospital during the period of data collection was substantially different than expected, and thus would affect the scheduled workload of the interviewer.

A woman selected in the sample was considered ineligible for the survey if she could not speak either English or Spanish with sufficient fluency to be interviewed. This was not determined until a woman was approached for interview, so that language eligibility was unknown when a sample woman left the hospital before being approached or when contact was not permitted by the hospital. In all, 3,386 women were sampled from the 52 participating hospitals, of which 3,340 were known or assumed to be (for computing response rates) eligible for the survey.

2.1.2 Estimation

Development of Sample Weights

An extensive series of estimates of the percentage and total number of mothers of newborns in the U.S. who used selected substances during certain time periods were computed from the survey data. Computation of these estimates required the development of a sample weight for each respondent to the questionnaire on substance use, reflecting the number of mothers of newborns represented by the respondent. The final sample weight incorporated several components: the overall probability of selection into the sample; adjustments for nonresponse; and poststratification to an independent source of data on total U.S. live births.

The base weight (the reciprocal of the overall probability of selection) for each sampled woman was the product of four factors: the probability of selection of the hospital; the number of days relative to 365 represented by the sample drawn from a given hospital (which served to develop annual estimates); the sampling rate of mothers within a given hospital; and a factor that accounted for the fact that certain days of the week were sampled less frequently than other days. Nonresponse adjustments were made to the base weights of questionnaire respondents to account for mothers who were sampled but were nonparticipants in the survey. These adjustments were based on classification by Census Region, hospital size, race/ethnicity, age, method of payment, and infant's birth weight. Finally, poststratification was used to adjust the sample weights to reflect the population distribution of mothers of newborns in the U.S. during 1991 and 1992. This adjustment was based on characteristics such as race, age, ethnicity, geographic dispersion in the country, and the day of the week of the birth. Although data were collected on women delivering in most months of a year (November, 1992 through August, 1993) no explicit attempt was made to account for seasonal variations in deliveries or substance use in either the design or weighting. The final weights provided the basis for estimation of prenatal substance use by mothers delivering in a 12-month period, although the estimates did not represent a specific calendar year.

The weights just described were developed for respondents to the Self Administered Questionnaire (SAQ) covering substance use and were also used for computing estimates from the nonblinded urine test results. Sample weights for the blinded urine test results were developed in the same way but with some modifications, as described in appendix section A-10.

Standard Errors and Confidence Intervals

Different samples drawn in the same manner from the same population can be expected to result in estimates that differ to some degree from the "true" value, the value that would have been obtained if the total population was surveyed. The standard error of an estimate from the sample is a measure of this sample variation. With complex sample designs, care must be taken that estimates of variability reflect the sample design actually used. For the NPHS, standard errors were estimated using an approach known as jackknife replication. This is described in appendix section A.10.

Estimated standard errors were used to calculate 95 percent confidence intervals for each estimated population percentage and number given in this report. Confidence intervals are usually calculated in a manner that produces a symmetric interval about the estimate. However, as many of the estimated prevalence rates of drug use were close to zero, a more suitable approach was to base the confidence intervals on a logit transformation. The resulting confidence intervals are asymmetric and never fall below zero. For example, an estimated rate of cocaine use during pregnancy of 1.5 percent might have a confidence interval of 0.8 percent to 5.6 percent.

The confidence intervals in this report may be interpreted as follows: if repeated samples of identical design were drawn from the same population and the estimates and confidence intervals were calculated in the same manner, 95 percent of the resulting confidence intervals would contain the value that would have been obtained had the entire population been surveyed.

Suppression of Estimates

Some estimates from the sample were highly variable, due to factors such as small sample size or large design effects. Criteria, described in appendix section A.10, were established to assess the extent of the variability associated with an estimated percentage. If a threshold was exceeded, the percentage and number estimates were suppressed and the corresponding confidence intervals were not computed. Suppression of an estimate is indicated in the tables of estimates.

2.1.3 Tests of Significance for Differences between Rates

Tests of the statistical significance of observed differences between pairs of rates of substance use were made for predesignated comparisons among different subgroups of the population. These tests were done to identify differences between rates that could not be attributed to sample variation alone. Each comparison was tested at the 5 percent level and the 1 percent level. These levels indicate that the chances of erroneously concluding that a real difference exists are 1 in 20 and 1 in 100, respectively. A difference that achieves significance at the 1 percent level is often characterized as "highly" significant.

An extensive number of comparisons between rates were made to test the statistical significance of observed patterns of differences associated with various demographic characteristics of mothers (e.g., age, race/ethnicity, marital status), or with prenatal visits, method of payment, or hospital size. Comparisons also were between rates of substance use just before pregnancy and in the second trimester of pregnancy to determine if substance use changed significantly after the women became aware that they were pregnant.

In the findings from the survey reported in chapter 4, the specific comparisons between rates that were tested are indicated, and the differences that were found to be statistically significant are identified, along with the level of significance achieved. The result of a significance test was not reported when certain conditions were not met. If an estimate was suppressed because of its high variability or did not meet assumptions about its underlying probability distribution, it is not among differences reported as significant. It should also be noted that, because of the large number of tests done, there is a nonnegligible probability that some of the differences identified as “statistically significant” in this report occurred simply due to chance alone (i.e., due to the variation in estimates expected from one sample to another). Thus, significant differences identified here do not represent conclusive evidence that an important difference exists in the population. The interpretation of significance tests when many such tests are undertaken is discussed in appendix section A.10.

2.2 Survey Implementation

This section describes implementation of the NPHS including negotiations with hospitals, recruitment and training of staff, selection of women for the study, and data collection.

2.2.1 Hospital Negotiations

In soliciting hospital participation in the survey, it was thought useful to obtain letters of support or endorsement from appropriate national professional organizations. Expressions of support over was received from the American College of Obstetricians and Gynecologists, Nurses Association of the American College of Obstetricians and Gynecologists, American Academy of Pediatrics, and the American Nurses Association.

Negotiations with the selected hospitals were organized into two stages. The first was directed toward gaining approval to conduct the study, working through key hospital physicians, from hospital management and Institutional Review Boards (IRBs). A detailed study protocol was sent to each candidate hospital. Often, project staff assisted in preparing a set of materials for review by the hospital's IRB. Second-stage negotiations involved the completion of arrangements with department heads, nursing directors, and medical record administrators for implementing the study, after hospital management approval had been obtained. The project staff sought to anticipate and respond to hospital needs and concerns. This required development of study procedures that were flexible and that accommodated concerns of the different hospitals without compromising the study protocol.

2.2.2 Interviewer Recruitment and Training

To best assure the efficiency and quality control of the complex data collection planned in each hospital, a small core team of traveling interviewers covered most of the hospitals. The core team was supplemented at times with interviewers drawn from the locales of the sample hospitals. Interviewers were recruited through a variety of sources. Initially, recruitment drew upon an established roster of experienced field staff. Additional candidates were recruited through contacts with other survey organizations and use of classified newspaper advertisements placed in cities with sample hospitals. These additional candidates were screened for communication abilities by conducting a trial interview with a project supervisor. Spanish-language interviewer candidates were screened by a bilingual staff member for their ability to communicate effectively in both Spanish and English; more than a third of the interviewers recruited were bilingual in Spanish and English. Almost all of the interviewers had prior experience in relevant data collection activities. Only female interviewers were recruited. No other criteria for matching interviewers with the target populations were used in selecting interviewers.

All candidate interviewers for the NPHS participated in one of three training sessions that ranged in length from 6 to 10 days. The training program, which was conducted by senior project staff, was designed to ensure consistency of data collection through a standardized mix of techniques for presenting study materials and focused heavily on trainee participation and practice. Selected candidates had an additional half-day of training on interviewing techniques and general field procedures. At the end of training, interviewers were evaluated by training staff on their understanding of and ability to carry out field procedures. Ultimately, 20 interviewers were utilized in the survey, of which 9 formed the team of travelers and 11 worked only in hospitals near their home.

The interviewers relied on the NPHS Field Manual, which contained detailed instructions for all procedures to be used in sampling and data collection. The manual included item-by-item specifications for each data form to be used. Both English and Spanish language versions of both questionnaires, the consent form, and the brochure and introductory statements were prepared for use in the survey.

2.2.3 Field Data Collection

Each traveling interviewer was scheduled for a number of hospitals, while those interviewers recruited locally were assigned to cover or assist in one or more hospitals in their home area. An interviewer remained at her assigned hospital until data collection was complete at that hospital, typically about 4 to 5 weeks per hospital. The traveling interviewers then moved to the next hospital to which they were assigned. Interviewers proficient in Spanish were assigned to those hospitals for which a large patient population of Hispanics was expected.

In preparation for the interviewer's visit, home office staff scheduled orientation sessions with a hospital staff person designated to serve as liaison for the survey. This schedule included several interviewer-led orientation discussions with groups of hospital personnel who would have some involvement, primarily nursing, laboratory, and medical records staff. The orientation sessions were scheduled for the first 2 days of the interviewer's visit. Approximately 1 week before arrival at a hospital, the interviewer contacted the hospital liaison to confirm the visit schedule.

At the time of negotiation, permission was sought from hospital management to access the delivery room log, which served as the frame for sampling women in each hospital. Using this log, the interviewer listed all women delivering live-born infants during the previous 24 hours and identified the sample for the day using a structured form. After beginning data collection at a hospital, if the number of deliveries was higher or lower than expected, the interviewer adjusted the sampling interval under guidance from the home office.

The interviewer attempted to visit each sample women before discharge. Contact attempts were deferred until 6 hours after a normal vaginal delivery and until 36 hours after delivery by cesarean section. At this visit the interviewer introduced the survey, read a statement that explained the components of survey participation, handed the subject an introductory letter and brochure that described the survey, and requested verbal consent to conduct the interview. In most hospitals, women under 18 years of age were considered to be emancipated minors for purposes of consent to participate; in some hospitals, IRBs required parental consent for women of minority age. To help establish rapport, the interviewer gave each woman an inexpensive gift for her newborn, whether or not she agreed to participate in the survey.

The interview was conducted at the study subject's bedside as soon as she agreed to participate. Participation in the study required 50 to 60 minutes of the subject's time. The first questionnaire, which was administered by the interviewer, requested information on the subject's previous pregnancies, prenatal care for the current pregnancy, and demographic characteristics. The second questionnaire, which was completed by the subject, focused on the subject's substance use during specified time periods before and during pregnancy and asked about any treatment for substance use problems. In responding to the substance use questionnaire, the subject was asked to record her answers in a separate booklet. This booklet was then sealed in an envelope, and interviewers were prohibited from reviewing the subject's responses. If both questionnaires were completed, written consent was requested from the subject to abstract information from the mother's and infant's medical records and to test the mother's urine specimen. In a subset of six hospitals, permission also was sought from questionnaire respondents to collect and test a specimen of the mother's hair.

When consent for record abstracting was obtained, the interviewer abstracted certain basic information from the mother's and infant's medical records at the hospital. Then, the face sheet, admission history and physical or admission note, delivery room record, and discharge summary or note, were photocopied and sent to the home office for abstracting and coding. To permit later examination of selection bias, the interviewer also abstracted four demographic data items on each survey nonparticipant: age, race, ethnicity, and method of hospital payment.

In six selected hospitals, hair specimens were collected from subjects with their consent to test for illicit drugs. Several strands of hair were cut from the participating subject according to a standardized procedure. The specimens were labeled and shipped to a NIDA Addiction Research Center, where they were frozen and stored for future testing.

Urine specimens collected routinely on all obstetric admissions by staff of the participating hospitals were tested for specific drugs under blinded and nonblinded procedures. Blinded testing was approved by 47 of the 52 survey hospitals while nonblinded testing was conducted in all 52 hospitals. The urine specimens collected each day were divided by the interviewer into two portions, one for blinded testing and one for nonblinded testing. The blinded portion was tested for the sampled women without seeking their consent, using procedures to guarantee the anonymity of the subject. Age, race, ethnicity, and method of hospital payment were obtained from hospital records for each person. These data were linked with the blinded urine test results through a randomly-generated identification number. The nonblinded portion was tested and linked with the questionnaire and the medical record abstract information only if written consent to test the urine specimen was obtained. A separate identification number was used to link these data. The specimens from all survey hospitals were shipped to a central laboratory, where they were frozen and stored until testing. This laboratory was NIDA-certified and followed NIDA testing and quality control standards. Specimens from each hospital were not tested until data collection was completed for the hospital and forms with personal identifiers had been destroyed.

2.3 Response Rates

In all, 52 hospitals participated in the NPHS. The participating hospitals included 39 of the 60 hospitals originally selected for the survey (65 percent of sampled hospitals). Of the 21 original hospitals that refused, 13 were replaced, following the substitution rules indicated earlier. (See appendix section A.2.) The eight that were not replaced had a relatively small number of annual deliveries and were members of multiple-hospital clusters. The planned sample of women from these eight hospitals was selected instead from other hospitals in their respective clusters.

From all participating hospitals, 3,386 women were selected for the survey, of which 46 (1 percent of sampled) were found to be ineligible. Of the 3,340 assumed eligible, 3,007 (89 percent of sampled) could be approached for participation in the survey. For response rate calculations all questionnaire nonrespondents among the 3,340 persons were assumed to be eligible; thus the response rates based on "eligible" subjects may be slightly understated.

A total of 2,613 of these 3,340 women completed the questionnaire on substance use (87 percent of those approached or 78 percent of the total eligible women selected). Mothers' and infants' medical records were abstracted for about 92 percent of the women who completed the questionnaire on substance use. At the six hospitals that participated in the hair testing component of the survey, specimens were collected from 83 percent of the eligible subjects. Of all the women who completed the questionnaire on substance use, 45 percent had urine tested as part of the nonblinded testing. At the 47 study hospitals that permitted blinded urine testing, 55 percent of the total eligible sample had urine tested under the blinded testing procedure. Further information on response rates is provided in appendix section A.3.

3. SAMPLE AND TARGET POPULATION

This chapter provides information on the demographic characteristics of the study sample and of the target national population of mothers and infants. Women completing the questionnaire on substance use (the study respondents) served as the basis for generating the national estimates of substance use that follow in chapter 4. Estimates of the number of women delivering live births annually in the U.S. were made to indicate the distributions of the survey target population by various characteristics of the mother that were used in the analysis. Also, estimates of the number of infants born alive in the U.S. by race/ethnicity are given. Data for the total sample and total U.S. live births are given here. Corresponding distributions for deliveries in U.S. metropolitan areas may be seen in appendix C.

3.1 Study Sample - Women Completing the Questionnaire on Substance Use

The unweighted distribution of the questionnaire respondents by race/ethnicity and age is shown in table 3-1. Race and Hispanic origin were designated by the respondent. In forming race/ethnic groups for this report, women designating themselves as "Hispanic" of any race were classified as such, while the remaining women were classified by race. For convenience, the race/ethnic groups will be referred to in the text as "white,", "black," "Hispanic," and "other." Age at time of delivery was computed from the birth date given by the respondent. For the small number of women in the total sample for whom race/ethnicity or age was not obtained, these data were imputed in constructing population estimates.

There were 2,613 respondents to the drug use questionnaire, of which 2,427 (92.9 percent) were from metropolitan area hospitals. Whites made up 58.6 percent of the total sample; the percentage of blacks (19.2 percent) was about the same as the percentage of Hispanics (18.9 percent). Consistent with age distributions of mothers of newborns in the general population, the majority of black and Hispanic respondents were under 25 years of age, while roughly 30 percent of all white respondents were younger than age 25. Only 25 respondents were older than 39 years and none was older than 44 years. There were only a small number of respondents in the other race/ethnic category, making up about 3 percent of the sample.

The questionnaire respondents are profiled on other, selected characteristics in table 3-2. White respondents were distributed rather evenly by hospital size, while most black and Hispanic respondents were selected from larger hospitals.

The variables shown in these two tables are used throughout the report, and these tables indicate the sample sizes associated with the demographic subgroups. Detailed information on the definition of the variables and categories used in the tables may be found in appendix A-8.

Table 3-1. Unweighted sample[1] of women delivering live births in survey hospitals, by age and race/ethnicity

	Race/ethnicity									
	White, non-Hispanic		Black, non-Hispanic		Hispanic		Other[2]		Total sample	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Age in years										
Under 18	46	3.0	44	8.8	40	8.1	5	5.9	135	5.2
18-24	437	25.5	227	45.2	223	45.1	32	37.7	919	35.2
25-29	447	29.2	119	23.7	122	24.7	20	23.5	708	27.1
30-34	446	29.1	79	15.7	72	14.6	17	20.0	614	23.5
35 and older	155	10.1	33	6.6	38	7.7	11	12.9	237	9.1
All ages	1,531	100.0	502	100.0	495	100.0	85	100.0	2,613	100.0
Race/ethnicity group (percent)		58.6		19.2		18.9		3.3		100.0

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[1] Respondents to questionnaire on substance use.

[2] Includes Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

Table 3-2. Unweighted sample[1] of women delivering live births in survey hospitals, by selected demographic characteristics and race/ethnicity

	Race/ethnicity							
	White, non-Hispanic		Black, non-Hispanic		Hispanic		Total[2]	
Demographic characteristic	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Marital status								
Married	1,233	80.5	120	23.9	298	60.2	1,705	65.3
Not married	298	19.5	382	76.1	197	39.8	908	34.7
Living with person	140	9.1	72	14.3	83	16.8	306	11.7
Never married	113	7.4	269	53.6	90	18.2	486	18.6
Other[3]	45	2.9	41	8.2	24	4.8	116	4.4
Total sample	1,531	100.0	502	100.0	495	100.0	2,613	100.0
Mother's education								
Less than 12 years	229	15.0	162	32.3	255	51.5	667	25.5
12 years	543	35.5	229	45.6	152	30.7	948	36.3
13-15 years	358	23.4	79	15.7	62	12.5	519	19.9
16 years or more	401	26.2	32	6.4	26	5.3	479	18.3
Total sample	1,531	100.0	502	100.0	495	100.0	2,613	100.0
Annual household income								
$8,450 or less	113	7.4	179	35.7	154	31.1	468	17.9
$8,451-$14,850	152	9.9	95	18.9	102	20.6	357	13.7
$14,851-21,300	143	9.3	73	14.5	80	16.2	308	11.8
$21,301-$30,000	236	15.4	62	12.4	48	9.7	359	13.7
$30,001-$50,000	445	29.1	66	13.1	71	14.3	600	23.0
Over $50,000	442	28.9	27	5.4	40	8.1	521	19.9
Total sample	1,531	100.0	502	100.0	495	100.0	2,613	100.0
Mother's employment status								
Working	959	62.6	250	49.8	219	44.2	1,474	56.4
Not working	572	37.4	252	50.2	276	55.8	1,139	43.6
Unemployed	55	3.6	46	9.2	27	5.5	131	5.0
Homemaker	429	28.0	91	18.1	185	37.4	725	27.7
Attending school	88	5.7	115	22.9	64	12.9	283	10.8
Total sample	1,531	100.0	502	100.0	495	100.0	2,613	100.0
Number of prenatal visits								
Less than 5	27	1.8	55	11.0	40	8.1	127	4.9
5 - 10	330	21.6	181	36.1	212	42.8	754	28.9
11-16	997	65.1	200	39.8	198	40.0	1,435	54.9
17 or more	177	11.6	66	13.1	45	9.1	297	11.4
Total sample	1,531	100.0	502	100.0	495	100.0	2,613	100.0
Method of hospital payment								
Private source	1,148	75.0	110	21.9	187	37.8	1,488	56.9
Public aid	383	25.0	392	78.1	308	62.2	1,125	43.1
Total sample	1,531	100.0	502	100.0	495	100.0	2,613	100.0
Hospital size (Annual births)								
Less Than 1,000	414	27.0	81	16.1	92	18.6	597	22.8
1,000 - 1,999	389	25.4	52	10.4	96	19.4	549	21.0
2,000 - 2,999	366	23.9	126	25.1	125	25.3	638	24.4
3,000 or more	362	23.6	243	48.4	182	36.8	829	31.7
Total sample	1,531	100.0	502	100.0	495	100.0	2,613	100.0

[1] Respondents to questionnaire on substance use.

[2] Includes Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

[3] Divorced, separated, widowed.

3.2 National Estimates of Mothers and Infants

Weighted estimates of the annual national percentage and number of mothers and live-born infants, based on the sample distribution described in section 3.1, are given in this section. They reflect all U.S. live births, whether or not the infant was delivered in a hospital. These estimates represent the population distribution of live births at the time the survey was conducted (1992-1993).

Table 3-3 indicates the annual percentage and number of women delivering live births in the U.S. by age and race/ethnicity. About 4 million women deliver live-born children annually. Some 65 percent of the mothers are white, 16 percent are black, 15 percent are Hispanic, and less than 4 percent are of other race/ethnic groups. In regard to age, almost 40 percent of the women are under age 25, about 27 percent are age 25-29, and about 33 percent are age 30 and older. The age distribution in the sample was very similar.

Distributions of the target population by other characteristics for the major race/ethnicity groups are shown in table 3-4.

The projection of annual U.S. live births is given in table 3-5. Percentages by race/ethnic group are similar to the distribution seen for mothers, and the slightly greater numbers of infants reflect multiple births among women in the sample.

Table 3-3. Estimated percent distribution and number of women delivering live births annually, by age and race/ethnicity: United States[1]

	Race/ethnicity				
	White, non-Hispanic	Black, non-Hispanic	Hispanic	Other[2]	Total
			Percent		
Age in years					
Under 18	3.2	8.2	8.1	5.8	4.9
18-24	29.4	46.6	44.3	35.0	34.7
25-29	27.9	24.7	25.4	23.9	26.8
30-34	29.9	14.8	14.9	23.0	24.9
35 and older	9.6	5.7	7.3	12.3	8.7
All ages	100.0	100.0	100.0	100.0	100.0
Race/ethnic group (percent)	64.6	16.5	15.4	3.6	100.0
			Number		
Age in years					
Under 18	82,483	54,644	49,745	8,285	195,157
18-24	763,727	309,778	273,980	50,245	1,397,731
25-29	724,639	163,908	157,210	34,345	1,080,102
30-34	777,472	98,257	92,116	33,084	1,000,928
35 and older	248,869	37,980	44,877	17,664	349,389
All ages	2,597,189	664,567	617,928	143,623	4,023,307

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[1] Refer to chapter 2 for explanation of estimates.

[2] Includes Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

Table 3-4. Estimated number (in thousands) and percent distribution of women delivering live births annually, by selected demographic characteristics and race/ethnicity: United States

	Race/Ethnicity							
	White, non-Hispanic		Black, non-Hispanic		Hispanic		Total[1]	
Demographic characteristic	Number (*thousands*)	Percent	Number (*thousands*)	Percent	Number (*thousands*)	Percent	Number (*thousands*)	Percent
Marital status								
Married	2068.0	79.7	160.3	24.0	366.1	59.3	2693.5	66.9
Not married	526.4	20.3	506.7	76.0	251.7	40.7	1329.8	33.1
Living with person	257.5	9.9	89.5	13.4	111.7	18.1	474.9	11.8
Never married	191.9	7.4	371.9	55.8	108.2	17.5	690.0	17.1
Other[2]	76.9	3.0	45.4	6.8	31.8	5.1	165.0	4.1
Total sample	2594.4	100.0	667.1	100.0	617.8	100.0	4023.3	100.0
Mother's education								
Less than 12 years	406.8	15.7	229.9	34.5	325.1	52.6	994.2	24.7
12 years	942.7	36.3	308.2	46.2	186.5	30.2	1479.9	36.8
13-15 years	597.5	23.0	94.6	14.2	78.5	12.7	808.6	20.1
16 years or more	647.3	25.0	34.4	5.2	27.8	4.5	740.6	18.4
Total sample	2594.4	100.0	667.1	100.0	617.8	100.0	4023.3	100.0
Annual household income								
$8,450 or less	217.3	8.4	237.4	35.6	193.2	31.3	679.0	16.9
$8,451-$14,850	270.0	10.4	128.4	19.3	119.6	19.4	534.1	13.3
$14,851-21,300	254.5	9.8	94.9	14.2	107.8	17.5	478.6	11.9
$21,301-$30,000	436.1	16.8	95.2	14.3	57.9	9.4	613.0	15.2
$30,001-$50,000	728.2	28.1	83.0	12.4	88.5	14.3	935.3	23.2
Over $50,000	688.3	26.5	28.2	4.2	50.8	8.2	783.3	19.5
Total sample	2594.4	100.0	667.1	100.0	617.8	100.0	4023.3	100.0
Mother's employment status								
Working	1644.3	63.4	324.4	48.6	277.1	44.9	2321.5	57.7
Not working	950.1	36.6	342.6	51.4	340.7	55.1	1701.9	42.3
Unemployed	94.6	3.6	57.7	8.7	23.9	3.9	180.7	4.5
Homemaker	701.9	27.1	119.3	17.9	234.8	38.0	1095.1	27.2
Attending school	153.6	5.9	165.6	24.8	82.0	13.3	426.1	10.6
Total sample	2594.4	100.0	667.1	100.0	617.8	100.0	4023.3	100.0
Number of prenatal visits								
Less than 5	45.1	1.7	67.2	10.1	41.7	6.8	161.2	4.0
5 - 10	579.6	22.3	241.1	36.1	256.4	41.5	1131.2	28.1
11-16	1672.1	64.4	274.0	41.1	255.7	41.4	2268.8	56.4
17 Or more	297.7	11.5	84.8	12.7	64.0	10.4	462.1	11.5
Total sample	2594.4	100.0	667.1	100.0	617.8	100.0	4023.3	100.0
Method of hospital payment								
Private source	1904.7	73.4	129.0	19.3	240.4	38.9	2354.9	58.5
Public aid	689.6	26.6	538.1	80.7	377.4	61.1	1668.4	41.5
Total sample	2594.4	100.0	667.1	100.0	617.8	100.0	4023.3	100.0
Hospital size (Annual births)								
Less than 1,000	710.2	27.4	122.8	18.4	85.5	13.8	933.2	23.2
1,000 - 1,999	613.8	23.7	61.1	9.2	89.1	14.4	782.2	19.4
2,000 - 2,999	692.6	26.7	173.5	26.0	186.8	30.2	1097.2	27.3
3,000 or more	577.7	22.3	309.8	46.4	256.3	41.5	1210.7	30.1
Total sample	2594.4	100.0	667.1	100.0	617.8	100.0	4023.3	100.0

[1] Includes Other race/ethnicity: Asian, Pacific Islander, American Indian, Eskimo, and Aleut.

[2] Divorced, separated, widowed.

Table 3-5. Estimated number and percent distribution of annual live births, by race/ethnicity of mother: United States

Race/ethnicity	Number	Percent
White, non-Hispanic	2,647,420	64.8
Black, non-Hispanic	669,490	16.4
Hispanic	624,069	15.3
Other[1]	145,194	3.6
Total	4,086,173	100.0

[1] Includes Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

4. FINDINGS

The primary objective of the National Pregnancy and Health Survey was to provide national estimates of the prevalence and patterns of substance use during pregnancy among women delivering live-born infants annually. National estimates are presented in this chapter of the prenatal use of a number of illicit drugs, cigarettes, alcohol, and the nonmedical and medical use of certain prescription medications that may have psychotherapeutic effects. These estimates are based on self-reported use by a probability sample of women who delivered live-born infants in hospitals during the survey period, November 1992 to August 1993.

To assess the completeness and validity of self-reported substance use, urine specimens from sample subjects were obtained at admission for delivery and tested for four specific drugs. The results of these tests are discussed in appendix B.

4.1 Considerations in Interpreting the Data

Considerations important to understanding the results from this survey have been introduced in chapter 2: sampling error, weighting, estimation procedures, and hypothesis testing. Brief discussions of such factors as they are relevant to interpretation of the data tables are repeated here. Appendix section A.10 presents complete discussions of these and other technical considerations.

Some degree of statistical uncertainty or error is inherent in every sample survey. The standard error is a measure of the precision of an estimate, indicating the degree to which an estimate might vary from sample to sample. Ninety-five percent confidence intervals (C.I.) have been constructed using estimated standard errors for each estimated percentage and number to convey the precision of the estimate. The confidence intervals presented in the tables in this chapter may be interpreted as follows: If repeated samples of the population using the same design and sample size were drawn, 95 percent of the resulting confidence intervals would be expected to include the percentage or number of women that would be found if the total population had been surveyed.

Estimated percentages and numbers that did not reach a specified level of precision (i.e., estimates with particularly high variability) are excluded from the tables. In addition, where no respondent reported use of a substance, confidence intervals were omitted, as the precision of the estimate could not be assessed. Values given in the tables are rounded to the nearest tenth, so that a percentage or number computed as less than 0.05 is rounded to 0.0. A key to the conventions used is included in each table.

Observed differences between the rates in the tables may reflect sampling variability rather than true differences in the population. To assist in identifying differences that are more likely to reflect important differences between subpopulations, a series of statistical comparisons or hypothesis tests have been made. Each test was done at two levels of significance: .05 and .01. When the difference between two rates achieved statistical significance for a specific comparison, the probability is no more than 5 percent (or 1 percent) that a difference as large or larger than the observed difference was due to chance alone. The specific hypothesis tests were designated prior to the analysis. Thus, all possible statistical comparisons of differences between rates have not been made.

In general, the discussions are descriptive and refer to observed differences or patterns among the rates. When a difference between rates is statistically significant, the probability value will be cited in the text as ($p < .05$) or ($p < .01$). The results of significance tests usually are not indicated in the text if a comparison estimate was not significant, was suppressed, or if assumptions regarding the distribution of the test statistic were not met.

The estimates in chapter 4 of substance use in the survey population are based on the reported use by respondents during the specific periods of time covered in the questionnaire (e.g., the first trimester of pregnancy). Additionally, responses for these specific periods were aggregated to provide estimates for longer time spans of interest (e.g., during the total pregnancy). Errors in reporting of substance use among time periods may have occurred, possibly because of faulty recall or confusion on the part of the respondent.

The tables provide the percentage (rate per hundred persons) and number of women that would be estimated to have used a particular substance. The estimates represent all women delivering live-born infants in the U.S. during a calendar year. Estimates of the number of women are given in thousands; for example, an estimated number of 64.8 means 64,800 persons. Selected tables of estimates representing births in metropolitan areas are presented in appendix C.

4.2 Overall Estimates of Substance Use at Any Time During Pregnancy for Total Survey Population, by Race/Ethnicity and Age

This section of the report presents estimates of substances used at least once during the entire course of the pregnancy, for all substances on which data were collected. For most substances, data were obtained separately for each trimester of the pregnancy and for the last 3 days prior to delivery. Reported use in any of these individual time periods was counted as use during pregnancy. Use of hallucinogens, inhalants, and the medical or nonmedical use of psychotherapeutics was asked for the total period of the pregnancy and not by trimester. The substances included in the summary categories are specified in footnotes to the tables.

4.2.1 Estimates for Total Survey Population

Mothers Exposed During Pregnancy

Table 4-1 gives estimates of substance use during pregnancy for the total survey population—that is, estimates for all women delivering live-born infants in the U.S. Total percentage and number of women for all individual substances included in the survey are shown. The top section of this table groups illicit drugs and nonmedical use (i.e., not under physician's orders) of selected prescription medications. The latter include amphetamines, sedatives, tranquilizers, and analgesics. As these medications may be prone to abuse, their nonprescribed use has been classified with the illicit drugs and is included in the summary category, "Any Illicit Drug Use."

From table 4-1, 5.5 percent of the target population, or 221,000 women, were estimated to engage in illicit drug use at some time during pregnancy. Marijuana (2.9 percent) and cocaine (1.1 percent) had the highest rates of use among the individual illicit drugs; only 0.3 percent or less of the population were estimated to use any of the other illicit drugs included in the survey. The summary rate for nonmedical use of any psychotherapeutic was 1.5 percent, with analgesics (1.2 percent) being most frequently reported among the four drugs in this group.

Much larger proportions of the population were estimated to use alcohol (18.8 percent) or cigarettes (20.4 percent) at some time during pregnancy. These represented 757,000 and 820,000 women, respectively. The medical use (i.e., under physician's orders) of the four selected psychotherapeutics was obtained as an incidental component of the survey methodology, rather than as a specific study objective, and the estimates are presented for those readers who may have an interest in these data. An estimated 10.2 percent of the target population used one or more of these drugs during pregnancy, with analgesics again having the highest observed rate (7.6 percent).

Infants Exposed Prenatally

Table 4-2 presents estimates of the percentage and number of infants prenatally exposed to the substances shown. The slight differences between tables 4-1 and 4-2 are due to multiple births for some mothers. Table 4-2 is the only table in this chapter that presents estimates of exposed infants.

4.2.2 Estimates by Race/Ethnic Groups

Overall estimates of use during pregnancy by women in the three major race/ethnic groups defined for this survey are shown in table 4-3. The observed rate for use of any illicit drug was highest among blacks (11.3 percent), in comparison to the rates for whites (4.4 percent) and Hispanics (4.5 percent). Observed rates for blacks also were the highest for marijuana and cocaine

Table 4-1. Estimated percentage and number (in thousands) of women who used selected substances during pregnancy: United States

Substance	Percentage		Number *(thousands)*	
	Estimate	95% C.I.	Estimate	95% C.I.
Illicit drug use and nonmedical use of psychotherapeutics				
Any illicit drug use [1]	5.5	4.2 - 7.2	220.9	168.1 - 289.2
Marijuana	2.9	1.9 - 4.5	118.7	77.1 - 181.6
Cocaine	1.1	0.8 - 1.7	45.1	30.5 - 66.6
Crack	0.9	0.6 - 1.4	34.8	22.3 - 54.3
Other cocaine	0.3	0.1 - 0.7	12.7	6.0 - 26.6
Methamphetamine	0.1	0.0 - 0.4	4.5	1.2 - 17.3
Heroin	0.1	0.0 - 0.4	3.6	0.8 - 17.1
Methadone	0.1	0.0 - 0.4	3.4	0.8 - 14.2
Inhalants	0.3	0.1 - 0.7	12.1	5.1 - 28.6
Hallucinogens	0.2	0.1 - 0.6	8.7	3.0 - 25.1
Nonmedical use of any Psychotherapeutics [2]	1.5	1.0 - 2.3	61.2	40.1 - 93.2
Amphetamines	0.0	0.0 - 0.3	1.2	0.1 - 13.4
Sedatives	0.3	0.1 - 0.8	10.3	3.4 30.8
Tranquilizers	0.0	0.0 - 0.3	1.9	0.3 - 12.9
Analgesics	1.2	0.8 - 1.9	48.7	30.2 - 78.4
Alcohol	18.8	16.2 - 21.7	756.9	653.4 - 872.7
Cigarettes	20.4	18.5 - 22.4	819.7	744.0 - 901.0
Medical use of any psychotherapeutics [3]	10.2	7.7 - 13.6	412.3	308.2 - 546.3
Amphetamines	0.3	0.2 - 0.7	13.4	6.4 - 28.0
Sedatives	3.6	2.3 - 5.6	144.1	91.3 - 225.7
Tranquilizers	1.4	0.8 - 2.4	55.4	31.2 - 97.9
Analgesics	7.6	5.6 - 10.2	305.2	226.2 - 408.9

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Nonmedical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

[3] Medical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No observations, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

Table 4-2. Estimated percentage and number (in thousands) of infants exposed prenatally to selected substances: United States

	Percentage		Number *(thousands)*	
Substance	Estimate	95% C.I.	Estimate	95% C.I.
Illicit drug use and nonmedical use of psychotherapeutics				
Any illicit drug use [1]	5.4	4.1 - 7.1	222.0	169.4 - 289.6
Marijuana	2.9	1.9 - 4.4	118.7	77.6 - 180.6
Cocaine	1.1	0.7 - 1.6	45.1	30.4 - 66.8
Crack	0.9	0.5 - 1.3	34.8	22.2 - 54.5
Other cocaine	0.3	0.1 - 0.7	12.7	6.0 - 26.7
Methamphetamine	0.1	0.0 - 0.4	4.5	1.2 - 17.3
Heroin	0.1	0.0 - 0.4	3.6	0.8 - 17.1
Methadone	0.1	0.0 - 0.4	3.4	0.8 - 14.4
Inhalants	0.3	0.1 - 0.7	12.1	5.1 - 28.7
Hallucinogens	0.2	0.1 - 0.6	8.7	3.0 25.3
Nonmedical use of any psychotherapeutics [2]	1.5	1.0 - 2.3	62.2	40.4 - 95.7
Amphetamines	0.0	0.0 - 0.3	1.2	0.1 - 13.6
Sedatives	0.3	0.1 - 0.8	10.3	3.4 - 30.8
Tranquilizers	0.0	0.0 - 0.3	1.9	0.3 - 13.1
Analgesics	1.2	0.7 - 2.0	49.8	30.5 - 81.1
Alcohol	18.6	16.0 - 21.6	762.0	654.1 - 883.1
Cigarettes	20.2	18.4 - 22.2	826.1	749.9 - 907.9
Medical use of any psychotherapeutics [3]	10.1	7.5 - 13.5	414.1	307.6 - 552.2
Amphetamines	0.3	0.2 - 0.7	13.4	6.4 - 28.0
Sedatives	3.6	2.2 - 5.6	146.0	91.6 - 230.6
Tranquilizers	1.4	0.8 - 2.4	55.4	31.1 - 98.3
Analgesics	7.5	5.5 - 10.1	305.2	224.9 - 411.1

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Nonmedical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

[3] Medical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table 4-3a. Estimated percentage of women who used selected substances during pregnancy, by race/ethnicity: United States

Substance	Race/ethnicity					
	White, non-Hispanic		Black, non-Hispanic		Hispanic	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage					
Illicit drug use or nonmedical use of psychotherapeutics:						
Any illicit drug use [1]	4.4	2.8 - 6.7	11.3	8.2 - 15.4	4.5	2.9 - 7.0
Marijuana	3.0	1.6 - 5.4	4.6	3.0 - 7.1	1.5	0.5 - 3.9
Cocaine:	0.4	0.1 - 1.1	4.5	2.9 - 7.0	0.7	0.2 - 2.7
Crack	0.3	0.1 - 1.1	4.1	2.6 - 6.5	0.1	0.0 - 2.1
Other cocaine	0.1	0.0 - 0.6	0.7	0.2 - 2.1	0.6	0.1 - 2.8
Methamphetamine	0.1	0.0 - 0.7	0.1	0.0 - 1.9	(no)	(no) - (no)
Heroin	0.0	0.0 - 0.7	0.2	0.0 - 1.7	(no)	(no) - (no)
Methadone	0.1	0.0 - 0.5	0.2	0.0 - 1.7	(no)	(no) - (no)
Inhalants	0.2	0.1 - 0.8	0.4	0.1 - 1.8	0.4	0.1 - 2.7
Hallucinogens	0.1	0.0 - 0.6	0.3	0.1 - 1.7	0.7	0.2 - 2.2
Nonmedical use of any psychotherapeutics [2]	1.1	0.6 - 2.0	3.1	1.7 - 5.4	1.8	0.8 - 3.8
Amphetamines	0.0	0.0 - 0.6	(no)	(no) - (no)	(no)	(no) - (no)
Sedatives	***	*** - ***	1.0	0.3 - 3.5	0.4	0.1 - 1.8
Tranquilizers	***	*** - ***	(no)	(no) - (no)	0.2	0.0 - 1.7
Analgesics	1.0	0.5 - 1.9	2.2	1.2 - 4.1	1.3	0.5 - 3.3
Alcohol	22.7	19.3 - 26.4	15.8	11.5 - 21.3	8.7	5.4 - 13.7
Cigarettes	24.4	21.7 - 27.2	19.8	14.9 - 25.8	5.8	3.8 - 8.6
Medical use of any psychotherapeutics [3]	11.2	8.0 - 15.5	10.4	7.2 - 15.0	6.2	3.9 - 9.7
Amphetamines	0.3	0.1 - 0.9	0.4	0.1 - 1.8	0.3	0.1 - 1.7
Sedatives	4.0	2.2 - 7.0	4.4	2.0 - 9.5	1.4	0.5 - 4.2
Tranquilizers	1.1	0.7 - 2.0	2.9	0.8 - 9.6	0.9	0.3 - 3.3
Analgesics	8.3	5.8 - 11.7	7.7	5.6 - 10.7	4.4	2.7 - 6.9

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Nonmedical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

[3] Medical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table 4-3b. Estimated number (in thousands) of women who used selected substances during pregnancy, by race/ethnicity: United States

Substance	Race/ethnicity					
	White, non-Hispanic		Black, non-Hispanic		Hispanic	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number (*thousands*)					
Illicit drug use or nonmedical use of psychotherapeutics:						
Any illicit drug use [1]	113.1	72.8 - 174.0	75.0	54.2 - 102.4	28.1	18.0 - 43.3
Marijuana	77.5	42.5 - 139.5	30.8	19.9 - 47.2	9.1	3.4 - 24.2
Cocaine:	9.2	3.0 - 27.9	30.0	19.3 - 46.2	4.4	1.2 - 16.4
Crack	7.0	1.7 - 28.4	27.2	17.1 - 42.9	0.6	0.0 - 12.6
Other cocaine	3.0	0.6 - 14.8	4.4	1.4 - 14.0	3.8	0.8 - 17.1
Methamphetamine	3.7	0.8 - 17.6	0.8	0.1 - 11.0	(no)	(no) - (no)
Heroin	0.8	0.0 - 15.8	1.3	0.1 - 11.6	(no)	(no) - (no)
Methadone	2.2	0.3 - 14.2	1.2	0.1 - 11.1	(no)	(no) - (no)
Inhalants	6.4	2.1 - 19.6	2.9	0.7 - 12.1	2.7	0.4 - 16.7
Hallucinogens	2.2	0.3 - 15.9	2.2	0.4 - 11.4	4.3	1.3 - 13.7
Nonmedical use of any psychotherapeutics [2]	27.8	14.7 - 52.1	20.4	11.4 - 36.1	11.0	5.1 - 23.4
Amphetamines	1.2	0.1 - 15.0	(no)	(no) - (no)	(no)	(no) - (no)
Sedatives	***	*** - ***	6.6	1.8 - 23.3	2.2	0.4 - 10.8
Tranquilizers	***	*** - ***	(no)	(no) - (no)	1.0	0.1 - 10.6
Analgesics	24.9	12.2 - 50.6	14.8	7.8 - 27.6	7.8	3.0 - 20.1
Alcohol	588.6	501.0 - 686.5	105.0	76.6 - 141.4	53.6	33.3 - 84.7
Cigarettes	632.9	564.4 - 706.8	131.6	98.9 - 171.7	35.6	23.5 - 53.3
Medical use of any psychotherapeutics [3]	291.9	208.8 - 402.5	69.4	47.6 - 99.6	38.5	24.4 - 60.1
Amphetamines	8.9	3.5 - 22.4	2.5	0.5 - 11.7	2.0	0.4 - 10.6
Sedatives	102.9	57.6 - 181.3	29.4	13.3 - 63.2	8.7	2.8 - 26.2
Tranquilizers	29.6	17.0 - 51.5	19.0	5.4 - 63.6	5.8	1.7 - 20.1
Analgesics	215.1	150.4 - 304.1	51.5	36.9 - 71.1	27.0	16.9 - 42.5

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Nonmedical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

[3] Medical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

use among the race/ethnic groups. The marijuana use among blacks was 4.6 percent; rates for whites and Hispanics were 3.0 percent and 1.5 percent, respectively. It is estimated that 4.5 percent of blacks used cocaine during pregnancy; crack cocaine, with a rate of 4.1 percent, was the predominant form. All forms of cocaine use were less frequent among whites (0.4 percent) and Hispanics (0.7 percent). It is of note that the estimated number of blacks using cocaine (30,000) far exceeds the number of white (9,200) and Hispanic (4,400) mothers who used cocaine. The differences between overall rates for blacks and whites achieved statistical significance for any illicit drug use ($p < .01$), cocaine use in all forms ($p < .01$), and crack use ($p < .01$). Blacks also had significantly higher rates than Hispanics for any illicit drug use ($p < .01$) and marijuana use ($p < .05$).

Annually, black and Hispanic mothers make up only about 16 percent and 15 percent, respectively, of all women delivering live-born infants in the U.S., while white women account for about 65 percent of the total. Thus, while the percentages of blacks for any illicit drug use and for marijuana use were the highest among the three race/ethnic groups, the estimated population of white women using illicit drugs was much larger than the black population. There were more than 113,000 white women estimated to use any illicit drug, compared to 75,000 black women, and 77,500 white women used marijuana in comparison to 30,800 black women. Although much of the discussion in this report focuses on comparison of rates, these citations illustrate that differences between the rates for subgroups of the population may not adequately convey the magnitude and order of differences in the actual numbers of women affected. The reader is advised to consult the tables on the number of women, as well as the percentage figures, to obtain a more complete perspective on the findings from this survey.

The rate of nonmedical use of psychotherapeutics for blacks was 3.1 percent, while the rate among Hispanics was 1.8 percent, and the rate for whites was 1.1 percent. These rates primarily reflected analgesic use; rates of nonmedical analgesic use for blacks, whites, and Hispanics were 2.2 percent, 1.0 percent, and 1.3 percent, respectively. Rates of use for the other illicit drugs were less than 0.5 percent in all of the race/ethnic groups, and the observed differences between groups were negligible.

In contrast to the observed patterns for illicit drugs, alcohol and cigarette use were most frequent among whites. The rate of alcohol use among whites was 22.7 percent, compared to 15.8 percent among blacks and 8.7 percent among Hispanics. Only the difference between white and Hispanic rates achieved significance ($p < .01$). This same order of rates also was seen for cigarette use, with rates of 24.4 percent, 19.8 percent, and 5.8 percent among whites, blacks, and Hispanics, respectively. The rates for both whites and blacks were significantly higher (both $p < .01$) than the rate for Hispanics.

The observed rates of medical use of any psychotherapeutics were about the same for whites (11.2 percent) and blacks (10.4 percent), while the Hispanic rate was lower (6.2 percent). Both whites and blacks had higher rates of use than Hispanics for most of the individual psychotherapeutics. (Statistical testing of differences between rates of medical psychotherapeutic drug use was not performed.)

4.2.3 Estimates by Age Group

Only small differences in overall rates were observed among the three age groups for any illicit drug use (table 4-4). The respective rates were 5.7 percent for women under 25 years, 5.1 percent for women 25-29 years, and 5.5 percent for women 30 years and older. There was more variation among age groups, however, in the rates of use for individual illicit drugs. The rate of marijuana use was higher in the youngest age group (3.5 percent) than in women 25-29 years (2.4 percent) and 30 years and older (2.8 percent). In contrast, cocaine use was observed to be more frequent among older women; both older age groups had rates of 1.6 percent, while the rate in women under 25 years was 0.4 percent. This pattern held for crack cocaine use, with a rate of 1.3 percent in the two oldest age groups and 0.2 percent in the youngest group. Only the differences between rates of crack cocaine use were significant; the rates in both older age groups were significantly higher (both $p < .05$) than the rate for women under 25 years.

Rates observed for the other illicit drugs were too small to discern any trends with age. Also, age trends were not apparent in the rates for nonmedical use of any psychotherapeutics; the highest rate was for women under 25 years (1.7 percent), and the rates for women age 25-29 years (1.2 percent) and age 30 years and older (1.5 percent) were not notably different.

The rates of alcohol use were observed to increase with age, with the rate in women under 25 years (12.4 percent) being lower than the rates for women age 25-29 (21.8 percent) and age 30 and older (24.0 percent). Differences between the rate for women in the youngest age group and rates for both older age groups achieved significance (both $p < .01$). For cigarette use, the rate in the youngest age group (21.9 percent) was slightly higher than the rates for women age 25-29 (19.4 percent) and age 30 and older (19.3 percent).

The overall rates for medical use of psychotherapeutics differed little by age, but there were some observations of note for the individual substances. The use of sedatives was most frequent in women under 25 years—5.0 percent—as compared with 2.9 percent in women 29-29 years and 2.5 percent in women 30 years and older. However, rates for analgesic use were higher in older women; rates for the youngest to oldest age groups were 6.5 percent, 7.9 percent, and 8.6 percent, respectively.

There was insufficient reported use to permit further, more detailed analyses for heroin, methadone, methamphetamine, inhalants, and hallucinogens. These drugs and the medical use of psychotherapeutics will not be considered in subsequent tables.

4.2.4 Use of Selected Illicit Drugs by Race/Ethnicity and Age

The sample sizes were sufficient to permit computing estimates jointly by race/ethnicity and age for certain substances. Table 4-5 presents estimates by race/ethnicity and age for any illicit drug use, marijuana, cocaine (all forms), and crack cocaine. The statistical significance of differences between rates for race/ethnic groups within each age group was determined.

Table 4-4a. Estimated percentage of women who used selected substances during pregnancy, by age: United States

Substance	Age in years					
	Under 25		25 - 29		30 and older	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage					
Illicit drug use or nonmedical use of psychotherapeutics:						
Any illicit drug use [1]	5.7	3.5 - 9.3	5.1	3.4 - 7.6	5.5	3.9 - 7.6
Marijuana	3.5	1.7 - 7.1	2.4	1.3 - 4.2	2.8	1.8 - 4.3
Cocaine:	0.4	0.1 - 1.3	1.6	0.9 - 3.0	1.6	0.9 - 2.8
Crack	0.2	0.0 - 0.8	1.3	0.7 - 2.6	1.3	0.7 - 2.5
Other cocaine	0.2	0.0 - 1.3	0.5	0.1 - 1.5	0.3	0.1 - 1.1
Methamphetamine	0.2	0.0 - 1.2	0.1	0.0 - 1.2	(no)	(no) - (no)
Heroin	(no)	(no) - (no)	0.1	0.0 - 1.4	0.2	0.0 - 1.0
Methadone	0.1	0.0 - 0.8	0.1	0.0 - 1.4	0.1	0.0 - 1.0
Inhalants	0.3	0.1 - 1.2	0.3	0.1 - 1.3	0.3	0.0 - 1.7
Hallucinogens	0.0	0.0 - 1.1	0.2	0.0 - 1.2	0.4	0.1 - 1.3
Nonmedical use of any psychotherapeutics [2]	1.7	1.0 - 2.8	1.2	0.5 - 2.6	1.5	0.7 - 3.4
Amphetamines	0.1	0.0 - 0.8	(no)	(no) - (no)	(no)	(no) - (no)
Sedatives	0.5	0.2 - 1.7	0.2	0.0 - 1.2	(no)	(no) - (no)
Tranquilizers	0.1	0.0 - 0.9	0.1	0.0 - 1.3	(no)	(no) - (no)
Analgesics	1.1	0.6 - 2.1	0.9	0.3 - 2.4	1.5	0.7 - 3.4
Alcohol	12.4	9.6 - 15.8	21.8	17.7 - 26.5	24.0	20.2 - 28.2
Cigarettes	21.9	18.5 - 25.8	19.4	16.5 - 22.8	19.3	15.3 - 24.0
Medical use of any psychotherapeutics [3]	10.1	6.9 - 14.4	10.1	7.6 - 13.3	10.6	6.9 - 15.9
Amphetamines	0.1	0.0 - 0.8	0.8	0.3 - 2.1	0.2	0.0 - 1.0
Sedatives	5.0	2.9 - 8.5	2.9	1.6 - 5.0	2.5	1.3 - 4.5
Tranquilizers	1.0	0.3 - 3.4	2.6	1.4 - 4.9	0.9	0.3 - 3.0
Analgesics	6.5	4.4 - 9.6	7.9	5.6 - 11.1	8.6	5.6 - 12.9

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[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Nonmedical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

[3] Medical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

Table 4-4b. Estimated number (in thousands) of women who used selected substances during pregnancy, by age: United States

	Age in years					
	Under 25		25 - 29		30 and older	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
Substance	Number *(thousands)*					
Illicit drug use or nonmedical use of psychotherapeutics:						
Any illicit drug use [1]	91.5	55.5 - 148.6	55.5	37.2 - 82.1	73.9	52.8 - 102.9
Marijuana	55.3	26.7 - 112.4	25.5	14.2 - 45.6	37.8	24.5 - 58.0
Cocaine:	6.4	1.9 - 21.4	17.6	9.3 - 32.9	21.1	11.8 - 37.6
Crack	2.6	0.5 - 13.1	14.1	7.0 - 28.2	18.1	9.6 - 33.7
Other cocaine	3.8	0.7 - 20.6	5.0	1.5 - 16.1	3.8	1.0 - 15.0
Methamphetamine	3.3	0.6 - 18.7	1.1	0.1 - 13.3	(no)	(no) - (no)
Heroin	(no)	(no) - (no)	0.8	0.0 - 15.0	2.8	0.6 - 13.8
Methadone	1.4	0.1 - 12.8	0.8	0.0 - 15.0	1.2	0.1 - 13.7
Inhalants	5.2	1.4 - 19.4	3.2	0.7 - 13.8	3.6	0.6 - 22.7
Hallucinogens	0.6	0.0 - 18.1	2.2	0.4 - 12.9	5.9	1.9 - 18.2
Nonmedical use of any psychotherapeutics [2]	27.4	16.7 - 44.9	12.9	5.8 - 28.3	20.9	9.5 - 45.6
Amphetamines	1.2	0.1 - 13.0	(no)	(no) - (no)	(no)	(no) - (no)
Sedatives	8.4	2.6 - 26.6	1.9	0.3 - 12.7	(no)	(no) - (no)
Tranquilizers	0.9	0.0 - 14.4	1.0	0.1 - 13.5	(no)	(no) - (no)
Analgesics	18.0	9.5 - 33.8	9.9	3.7 - 26.2	20.9	9.5 - 45.6
Alcohol	197.4	153.1 - 252.2	235.6	191.5 - 286.7	324.0	273.3 - 380.7
Cigarettes	349.3	295.2 - 410.3	209.9	177.8 - 246.2	260.5	207.2 - 323.6
Medical use of any psychotherapeutics [3]	160.2	110.6 - 228.8	109.4	82.3 - 144.1	142.6	92.6 - 215.0
Amphetamines	2.4	0.4 - 12.9	8.4	3.0 - 22.8	2.7	0.5 - 13.7
Sedatives	80.1	46.5 - 135.9	30.8	17.5 - 53.7	33.2	17.8 - 61.3
Tranquilizers	15.2	4.2 - 54.5	28.2	14.7 - 53.3	12.0	3.5 - 40.5
Analgesics	103.9	69.8 - 152.8	85.5	60.1 - 120.4	115.8	75.6 - 174.5

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Nonmedical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

[3] Medical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

Table 4-5a. Estimated percentage of women who used selected illicit drugs during pregnancy, by race/ethnicity and age: United States

Substance and race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Any illicit drug [1]								
White, non-Hispanic	5.8	2.7 - 11.9	3.3	1.8 - 6.1	3.9	2.3 - 6.7	4.4	2.8 - 6.7
Black, non-Hispanic	7.9	5.0 - 12.1	15.3	7.8 - 27.9	15.5	9.5 - 24.3	11.3	8.2 - 15.4
Hispanic	3.7	1.5 - 8.8	3.2	1.1 - 9.0	8.0	2.8 - 20.9	4.5	2.9 - 7.0
Total [2]	5.7	3.5 - 9.3	5.1	3.4 - 7.6	5.5	3.9 - 7.6	5.5	4.2 - 7.2
Marijuana								
White, non-Hispanic	4.7	1.8 - 11.8	2.0	0.8 - 4.5	2.3	1.2 - 4.4	3.0	1.6 - 5.4
Black, non-Hispanic	2.4	1.0 - 5.4	5.2	2.1 - 12.3	10.1	5.4 - 17.9	4.6	3.0 - 7.1
Hispanic	1.7	0.6 - 5.0	1.8	0.4 - 7.3	***	*** - ***	1.5	0.5 - 3.9
Total [2]	3.5	1.7 - 7.1	2.4	1.3 - 4.2	2.8	1.8 - 4.3	2.9	1.9 - 4.5
Cocaine (all forms)								
White, non-Hispanic	0.1	0.0 - 1.9	0.5	0.1 - 2.6	0.4	0.1 - 1.6	0.4	0.1 - 1.1
Black, non-Hispanic	0.7	0.1 - 3.6	7.8	3.9 - 14.9	10.8	5.7 - 19.2	4.5	2.9 - 7.0
Hispanic	0.8	0.1 - 7.3	0.7	0.1 - 6.7	***	*** - ***	0.7	0.2 - 2.7
Total [2]	0.4	0.1 - 1.3	1.6	0.9 - 3.0	1.6	0.9 - 2.8	1.1	0.8 - 1.7
Crack cocaine								
White, non-Hispanic	(no)	(no) - (no)	0.4	0.0 - 3.1	0.4	0.1 - 1.6	0.3	0.1 - 1.1
Black, non-Hispanic	0.7	0.1 - 3.6	7.0	3.4 - 14.0	9.6	5.0 - 17.5	4.1	2.6 - 6.5
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	***	*** - ***	0.1	0.0 - 2.1
Total [2]	0.2	0.0 - 0.8	1.3	0.7 - 2.6	1.3	0.7 - 2.5	0.9	0.6 - 1.4

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table 4-5b. Estimated number (in thousands) of women who used selected illicit drugs during pregnancy, by race/ethnicity and age: United States

Substance and race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number *(thousands)*							
Any illicit drug [1]								
White, non-Hispanic	48.8	22.8 - 100.5	24.0	12.9 - 44.0	40.3	23.4 - 68.7	113.1	72.8 - 174.0
Black, non-Hispanic	28.7	18.3 - 44.3	25.1	12.7 - 45.8	21.2	13.0 - 33.1	75.0	54.2 - 102.4
Hispanic	12.0	4.9 - 28.5	5.1	1.7 - 14.2	11.0	3.8 - 28.6	28.1	18.0 - 43.3
Total [2]	91.5	55.5 - 148.6	55.5	37.2 - 82.1	73.9	52.8 - 102.9	220.9	168.1 - 289.2
Marijuana								
White, non-Hispanic	39.8	15.1 - 100.1	14.2	6.0 - 32.8	23.5	12.1 - 45.1	77.5	42.5 - 139.5
Black, non-Hispanic	8.6	3.7 - 19.5	8.5	3.4 - 20.2	13.7	7.4 - 24.4	30.8	19.9 - 47.2
Hispanic	5.6	1.9 - 16.1	2.9	0.7 - 11.5	0.6	*** - ***	9.1	3.4 - 24.2
Total [2]	55.3	26.7 - 112.4	25.5	14.2 - 45.6	37.8	24.5 - 58.0	118.7	77.1 - 181.6
Cocaine (all forms)								
White, non-Hispanic	1.1	0.1 - 16.0	3.7	0.7 - 18.7	4.4	1.2 - 16.4	9.2	3.0 - 27.9
Black, non-Hispanic	2.6	0.5 - 12.9	12.8	6.4 - 24.4	14.7	7.8 - 26.2	30.0	19.3 - 46.2
Hispanic	2.7	0.3 - 23.6	1.1	0.1 - 10.5	***	*** - ***	4.4	1.2 - 16.4
Total [2]	6.4	1.9 - 21.4	17.6	9.3 - 32.9	21.1	11.8 - 37.6	45.1	30.5 - 66.6
Crack cocaine								
White, non-Hispanic	(no)	(no) - (no)	2.6	0.3 - 22.1	4.4	1.2 - 16.4	7.0	1.7 - 28.4
Black, non-Hispanic	2.6	0.5 - 12.9	11.6	5.6 - 22.9	13.1	6.9 - 23.8	27.2	17.1 - 42.9
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	***	*** - ***	0.6	0.0 - 12.6
Total [2]	2.6	0.5 - 13.1	14.1	7.0 - 28.2	18.1	9.6 - 33.7	34.8	22.3 - 54.3

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[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

Any Illicit Drug

For any illicit drug use, blacks had the highest total rate and the highest rate within each age group. Among women under 25 years, the rates for blacks, whites, and Hispanics, respectively, were 7.9 percent, 5.8 percent, and 3.7 percent. In women age 25-29 years, the rate among blacks (15.3 percent) was again higher than the rates for both whites (3.3 percent) and Hispanics (3.2 percent). The rate among blacks (15.5 percent) age 30 years and older also was higher than that among whites (3.9 percent) and Hispanics (8.0 percent). Only the difference between black and white rates in those age 30 and older reached statistical significance ($p < .01$). An increase with age in rates among blacks was seen from 7.9 percent in those under age 25 to over 15 percent in the older age groups, although the significance of this increase was not tested. It should be noted that, while the percentages were highest for blacks in each age group, the estimated number of white women using any illicit drug was about the same or larger than the population of black women in each age group.

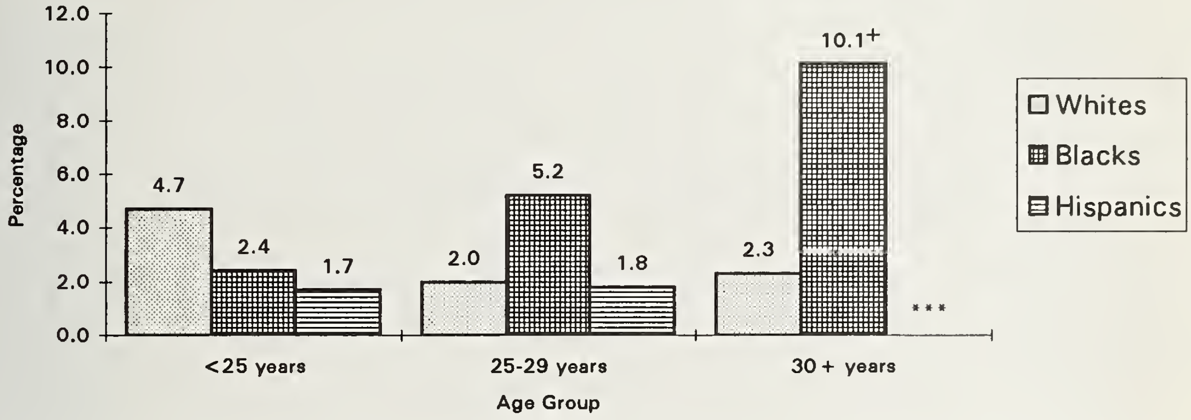
Marijuana

The category of "Any Illicit Drug Use" is a composite, and thus patterns of rates that are readily observed for the individual drugs may be obscured. For example, while the total rate of marijuana use among blacks (4.6 percent) was the highest among the three race/ethnic groups, the age-specific rate for whites under 25 years (4.7 percent) was higher than both black (2.4 percent) and Hispanic (1.7 percent) rates in this age group. Among whites the rates appeared to decline in the older age groups, while the rate for blacks increased. Among women 25-29 years, the black, white, and Hispanic rates were, respectively, 5.2 percent, 2.0 percent, and 1.8 percent. The rate for blacks (10.1 percent) increased substantially among women 30 years and older, and the rate for whites (2.3 percent) rose only slightly. Only the difference between the black and white rates for women age 30 and older was statistically significant ($p < .05$). These age-related patterns of marijuana use by race/ethnicity are highlighted in figure 4-1.

Cocaine (All Forms)

Black women had the highest total rate of cocaine use in all forms (table 4-5). Rates for all race/ethnic groups were less than 1 percent in women under 25 years: whites, 0.1 percent; blacks, 0.7 percent; and Hispanics, 0.8 percent. Higher rates among blacks were observed in the two older age groups. The comparative rates for whites, blacks, and Hispanics, respectively, in women 25-29 years were 0.5 percent, 7.8 percent, and 0.7 percent. The black rate was significantly higher in this age group than the rate for whites ($p < .05$) and Hispanics ($p < .05$). For women 30 years and older, the black rate increased to 10.8 percent and was significantly greater ($p < .05$) than the white rate of 0.4 percent.

Figure 4-1. Age-related patterns of marijuana use, by race/ethnicity



***See Table 4-5a.
+ Age 30+ years: black rate higher than white rate ($p < .05$).

Crack Cocaine

Crack cocaine was the predominant form used among blacks in all age groups. The overall rates among blacks were 4.1 percent for crack cocaine and 0.7 percent (see table 4-3) for other forms. Blacks under 25 years reported use of crack cocaine exclusively, while no use of crack was reported by whites and Hispanics in this age group.

The observed rates of crack cocaine use for blacks were consistently higher than white and Hispanic rates in each age group. For women under 25 years, the rate for blacks was 0.7 percent and no use of crack cocaine was reported by whites and Hispanics in this age group. Among women 25-29 years, the black rate increased to 7.0 percent, while the white rate was 0.4 percent and no use was reported by Hispanics. In those 30 years and older, the black rate (9.6 percent) again increased somewhat; the rate for whites remained at 0.4 percent (Hispanic estimate suppressed). Differences between black and white rates achieved significance both in women 25-29 years ($p < .05$) and 30 years and older ($p < .05$). The age-related differences in crack use of cocaine among black women is reflected in the pattern of rates seen for use of cocaine in all forms.

4.2.5 Use of Alcohol and Cigarettes by Race/Ethnicity and Age

The substances most frequently reported in this survey were alcohol and cigarettes. Rates by race/ethnicity and age of alcohol and cigarette use are given in table 4-6.

Table 4-6. Estimated percentage and number (in thousands) of women who used alcohol or cigarettes during pregnancy, by race/ethnicity and age: United States

Substance and race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Alcohol								
White, non-Hispanic	15.2	12.0 - 19.1	25.5	19.8 - 32.1	26.8	22.3 - 31.9	22.7	19.3 - 26.4
Black, non-Hispanic	11.2	6.0 - 20.1	20.8	13.7 - 30.3	22.0	14.8 - 31.4	15.8	11.5 - 21.3
Hispanic	6.4	2.8 - 13.9	10.8	5.5 - 20.1	11.7	4.9 - 25.4	8.7	5.4 - 13.7
Total [1]	12.4	9.6 - 15.8	21.8	17.7 - 26.5	24.0	20.2 - 28.2	18.8	16.2 - 21.7
Cigarettes								
White, non-Hispanic	31.7	25.0 - 39.3	22.0	18.0 - 26.6	20.0	16.0 - 24.6	24.4	21.7 - 27.2
Black, non-Hispanic	13.7	9.0 - 20.4	24.0	14.3 - 37.3	31.0	22.1 - 41.7	19.8	14.9 - 25.8
Hispanic	5.5	3.1 - 9.6	3.9	1.5 - 9.9	8.6	2.6 - 24.7	5.8	3.8 - 8.6
Total [1]	21.9	18.5 - 25.8	19.4	16.5 - 22.8	19.3	15.3 - 24.0	20.4	18.5 - 22.4
	Number *(thousands)*							
Alcohol								
White, non-Hispanic	128.5	101.3 - 161.4	184.6	143.6 - 232.7	275.5	228.9 - 327.5	588.6	501.0 - 686.5
Black, non-Hispanic	41.0	21.8 - 73.3	34.0	22.4 - 49.6	29.9	20.1 - 42.8	105.0	76.6 - 141.4
Hispanic	20.6	9.0 - 45.0	17.0	8.7 - 31.5	16.0	6.7 - 34.9	53.6	33.3 - 84.7
Total [1]	197.4	153.1 - 252.2	235.6	191.5 - 286.7	324.0	273.3 - 380.7	756.9	653.4 - 872.7
Cigarettes								
White, non-Hispanic	268.6	211.7 - 332.8	159.4	130.5 - 192.5	205.0	164.4 - 252.6	632.9	564.4 - 706.8
Black, non-Hispanic	50.0	32.8 - 74.3	39.3	23.5 - 61.1	42.3	30.1 - 56.8	131.6	98.9 - 171.7
Hispanic	17.7	9.9 - 31.1	5.1	0.6 - 21.9	11.7	3.6 - 33.8	35.6	23.5 - 53.3
Total [1]	349.3	295.2 - 410.3	209.9	177.8 - 246.2	260.5	207.2 - 323.6	819.7	744.0 - 901.0

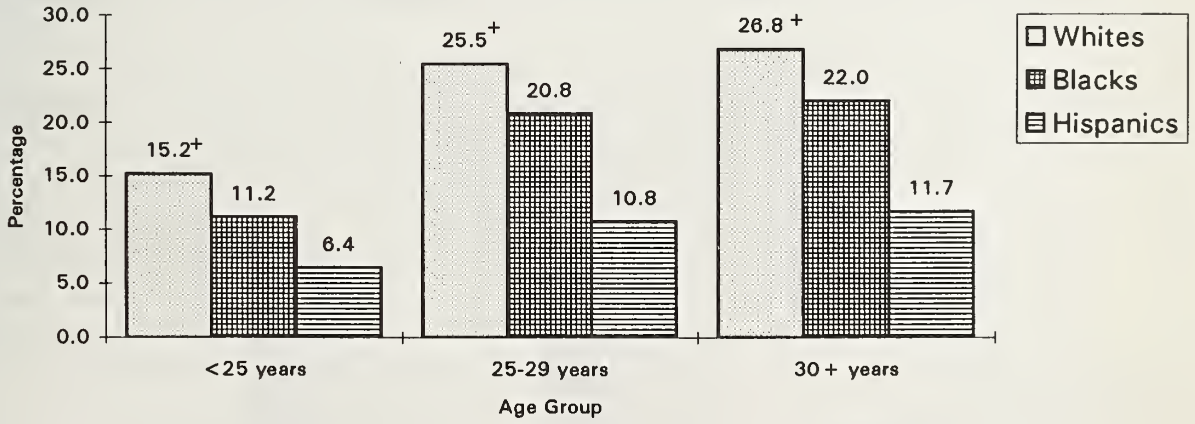
[1] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Alcohol

Total rates of alcohol use were highest in whites (22.7 percent), and the total rates by age group were observed to increase with age. The rates for whites were the highest among race/ethnic groups in all three age groups. The rates for whites were 15.2 percent in women under 25 years, 25.5 percent in women 25-29 years, and 26.8 percent for women 30 years and older. Rates for blacks were somewhat lower and showed a similar age pattern of increase with age; rates among blacks for the youngest to oldest age group were, respectively, 11.2 percent, 20.8 percent, and 22.0 percent. Rates of alcohol use in all three age groups were lowest among Hispanics and Hispanic rates also tended to increase with age. The Hispanic rates were 6.4 percent for those under 25 years, 10.8 percent in women 25-29 years, and 11.7 percent for women age 30 years or older. The differences between white and Hispanic rates were found to be significant within all three age groups ($p < .01$ for women under 25 years, $p < .05$ for women in both older age groups). These age-related patterns are illustrated in figure 4-2.

Figure 4-2. Age-related patterns of alcohol use, by race/ethnicity



+Age <25: white rate higher than Hispanic rate ($p < .01$). Ages 25-29 and 30+: white rates higher than Hispanic rates ($p < .05$).

Cigarettes

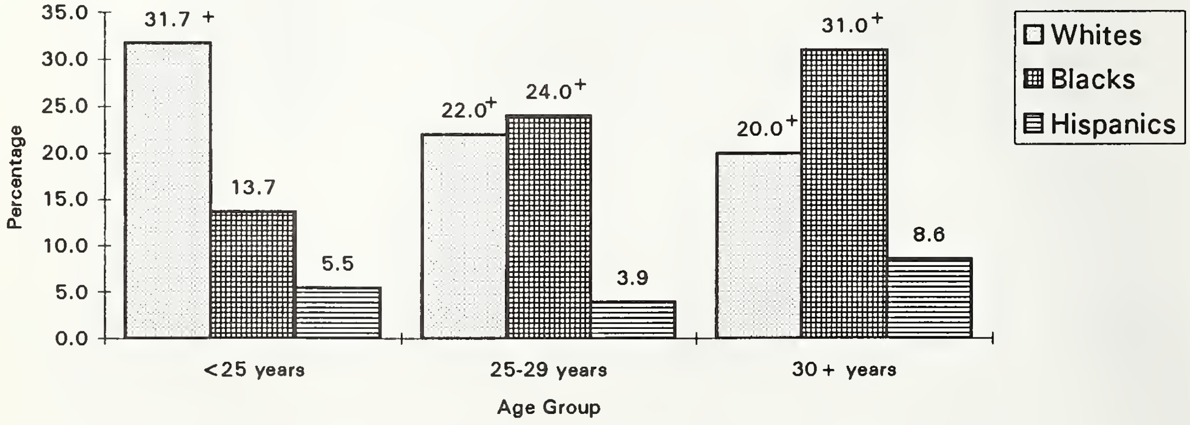
Whites had the highest total rate of cigarette use, and a trend with age was not observed in the total rates. However, age-related patterns of rates were observed within the individual race/ethnic groups (table 4-6). The white rates decreased in the two older age groups, while rates for blacks increased with increasing age. From the youngest to the oldest age group, respectively, rates for whites were 31.7 percent, 22.0 percent, and 20.0 percent. Comparable rates for blacks were 13.7 percent in women under 25 years, 24.0 percent among women 25-29 years, and 31.0 percent in women 30 years and older. As noted, the white rate (31.7 percent) was greater than those of the other race/ethnic groups under 25 years of age, while the rate for blacks age 30 years and older (31.0 percent) was higher than rates for the other race/ethnic groups.

Hispanics reported lower rates of cigarette use than those for whites and blacks. A definite trend with age was not apparent in the observed rates for this race/ethnic group; the rates were 5.5 percent among women under 25, 3.9 percent in those 25-29 years, and 8.6 percent for women 30 years and older.

Many of the differences in rates of cigarette use between race/ethnic groups by age were found to be significant. In women under 25 years, the rate for whites was significantly greater than the rates for both blacks ($p<.01$) and Hispanics ($p<.01$). For women 25-29 years, white and black rates were significantly higher than the Hispanic rate (both $p<.01$), but the difference between white and black rates was no longer significant. Among women 30 years and older, blacks again had a significantly higher rate than Hispanics ($p<.01$), and the white rate also continued to be significantly higher than the Hispanic rate ($p<.05$).

The age-related patterns in cigarette use by race/ethnic group are shown in figure 4-3. It is interesting that similar age-related patterns were seen in the observed rates of marijuana use (see figure 4-1).

Figure 4-3. Age-related patterns of cigarette use, by race/ethnicity



$^{+}$Age <25: white rate higher than black and Hispanic rates ($p<0.1$). Age 25-29: white and black rates higher than Hispanic rate ($p<.01$). Age 30+: white rate higher than Hispanic rate ($p<.05$) and black rate higher than Hispanic rate ($p<0.1$).

4.3 Sociodemographic Patterns in Use of Selected Substances During Pregnancy among Race/Ethnic Groups

Estimates of substance use are presented in this section by race/ethnicity for categories of four sociodemographic variables: marital status, mother's education, mother's employment status, and method of hospital payment. Significant differences in total rates of substance use were found between categories of all four variables. For comparison purposes, observations for the sociodemographic variables were aggregated into two summary categories.

Two types of comparisons between rates in the tables were tested for statistical significance. In the first type, comparisons were made *between* the two categories of each demographic variable, both between the rates for the total population and between the rates for each race/ethnic group. Significant differences indicate that there was a statistical association of substance use with the demographic variable, overall or for a race/ethnic group. The second type of comparison tested differences between the rates for race/ethnic groups *within* the same category of the demographic variable. This indicated whether there were statistical associations with race/ethnicity among women in that demographic subgroup that were not eliminated by controlling on the demographic characteristic. The results of these comparisons are consistently described in the order given here to assist the reader.

The reader is reminded that, as was seen in tables 3-2 and 3-3, the sample distributions for race/ethnic groups were quite different on many of the demographic variables. When there were small sample sizes in some demographic categories, the sensitivity of the tests to detect existing differences was reduced. For example, there were few women with 16 years or more of education in the samples of black and Hispanic women. Tests of differences were not made when no use was reported or when rates of very low precision were suppressed.

4.3.1 Patterns in Use of Selected Illicit Drugs

4.3.1.1 Any Illicit Drug

The distributions of estimates for any illicit drug use at some time during pregnancy by demographic variable and race/ethnicity are seen in table 4-7. The observed total estimates suggested differences between categories for all demographic variables, although the difference between the two categories of Employment Status was small. The highest rates were observed in those women who were not married, had less than 16 years of formal education, were not currently employed, and relied on some public source (most often, Medicaid) to pay for their hospital stay. These differences between categories of all demographic variables were consistent across the three race/ethnic groups, except for employed and nonemployed whites. Although the observed rates for blacks were consistently the highest within both categories of all four demographic variables, differences were not always significant.

Table 4-7. Estimated percentage and number (in thousands) of women who used any illicit drug[1] during pregnancy, by marital status, education, employment status, method of payment, and race/ethnicity: United States

Demographic characteristic	Race/ethnicity							
	White, non-Hispanic		Black, non-Hispanic		Hispanic		Total[2]	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Marital Status								
Married	2.6	1.6 - 4.2	6.1	2.3 - 15.2	3.2	0.9 - 11.0	2.9	1.9 - 4.4
Not married	11.1	5.5 - 21.3	12.9	9.0 - 18.2	6.5	2.5 - 15.9	10.8	7.4 - 15.6
Mother's education								
Less than 16 years	5.4	3.4 - 8.6	11.4	8.0 - 16.0	4.6	2.9 - 7.2	6.4	4.7 - 8.5
16 years or more	1.1	0.4 - 3.0	***	*** - ***	***	*** - ***	1.7	0.7 - 4.0
Employment status								
Employed	4.5	2.6 - 7.5	8.0	5.0 - 12.5	1.3	0.3 - 6.1	4.6	3.1 - 6.7
Not employed	4.1	2.3 - 7.1	14.4	9.0 - 22.3	7.2	4.5 - 11.3	6.7	4.8 - 9.3
Method of hospital payment								
Private source	3.1	1.7 - 5.5	9.4	4.9 - 17.3	2.4	0.7 - 7.8	3.3	2.1 - 5.4
Public aid	7.7	3.8 - 15.0	11.7	8.2 - 16.5	5.9	3.6 - 9.5	8.5	5.8 - 12.3
	Number (*thousands*)							
Marital status								
Married	54.6	33.9 - 87.2	9.8	3.7 - 24.3	11.7	3.2 - 40.3	77.4	50.5 - 117.9
Not married	58.5	28.8 - 111.9	65.2	45.5 - 91.7	16.4	6.3 - 39.9	143.6	98.1 - 206.6
Mother's education								
Less than 16 years	106.1	66.3 167.7	71.8	50.2 - 101.1	27.2	17.3 - 42.3	208.6	154.7 - 279.6
16 years or more	7.0	2.5 19.2	***	*** - ***	***	*** - ***	12.3	5.0 - 29.8
Employment status								
Employed	73.9	43.4 - 124.2	25.8	16.2 - 40.4	3.5	0.7 - 16.9	106.6	72.9 - 154.8
Not employed	39.2	22.3 - 67.9	49.1	30.7 - 76.0	24.6	15.4 - 38.5	114.3	82.0 - 158.2
Method of hospital payment								
Private source	59.7	33.3 - 105.7	12.2	6.4 - 22.3	5.7	1.7 - 18.7	78.9	48.4 - 127.5
Public aid	53.4	26.4 - 103.8	62.8	44.0 - 88.1	22.4	13.7 - 36.0	142.1	97.1 - 205.0

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

Regarding Marital Status, the difference between the rates of any illicit drug use for married women (2.9 percent) and not married women (10.8 percent) was statistically significant ($p<.05$). This pattern of lower rates among married women, compared with rates for not married women, was seen within each race/ethnic group. The observed rates for married and not married, respectively, were: whites, 2.6 percent vs. 11.1 percent ($p<.05$.); blacks, 6.1 percent vs. 12.9 percent; and Hispanics, 3.2 percent vs. 6.5 percent. The black rates were observed to be highest among the race/ethnic groups within both marital status categories, although they were not significantly higher than those for the other groups.

By category of Mother's Education, women with less than 16 years of education had an observed total rate of 6.4 percent for any illicit drug use, compared to 1.7 percent for those with 16 years or more of education ($p<.01$). Within race/ethnic groups, whites with less than 16 years of education also had the highest rate, 5.4 percent vs. 1.1 percent for white mothers with 16 years or more of education ($p<.01$). Within the category of less than 16 years of education, the black rate (11.4 percent) was significantly higher than the rates for whites (5.4 percent) ($p<.05$) and Hispanics (4.6 percent) ($p<.01$).

The estimates of any illicit drug use by Employment Status did not show consistent patterns across the three race/ethnic groups. The total rate was 4.6 percent in mothers who were employed and 6.7 percent in those who were not employed. Comparative rates by race/ethnic group for those employed and not employed, respectively, were: whites, 4.5 percent vs. 4.1 percent; blacks 8.0 percent vs. 14.4 percent; and Hispanics, 1.3 percent vs. 7.2 percent ($p<.01$). Within the group who were employed, the observed black rate was the highest, and the difference between black and Hispanic rates was significant ($p<.01$). Within the group who were not employed, rates for blacks and Hispanics were significantly higher (both $p<.05$) than the white rate.

Consistent differences in the observed total rates and the rates for all race/ethnic groups were again found between categories of Method of Hospital Payment for any illicit drug use. Among those reporting private sources of payment the total rate was 3.3 percent, while the rate was 8.5 percent for those reporting some public aid ($p<.05$). The rates by race/ethnic group for the payment categories of private sources and public aid, respectively, were: whites, 3.1 percent vs. 7.7 percent; blacks, 9.4 percent vs. 11.7 percent; and Hispanics, 2.4 percent vs. 5.9 percent. Within the group indicating private sources of payment, the black rate was the highest but differences were not significant. The black rate also was highest among women reporting public aid; the difference between black and Hispanic rates was significant ($p<.05$).

4.3.1.2 Marijuana

In general, the rate distributions for marijuana use seen in table 4-8 were relatively similar to those observed in table 4-7 for any illicit drug use, although the rates were lower and the differences between rates usually were smaller. Differences in total rates between categories for all demographic variables were seen. The highest rates were found in those mothers who were not

Table 4-8. Estimated percentage and number (in thousands) of women who used marijuana during pregnancy, by marital status, education, employment status, method of payment, and race/ethnicity: United States

Demographic characteristic	Race/ethnicity							
	White, non-Hispanic		Black, non-Hispanic		Hispanic		Total [1]	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Marital status								
Married	1.6	0.9 - 3.0	4.0	1.1 - 12.9	0.4	0.1 - 2.8	1.5	0.9 - 2.6
Not married	8.3	3.4 - 18.7	4.8	2.9 - 8.0	3.0	1.0 - 9.3	5.8	3.4 - 9.7
Mother's education								
Less than 16 years	3.9	2.1 - 7.1	4.7	3.0 - 7.3	1.5	0.6 - 4.1	3.5	2.3 - 5.5
16 years or more	0.2	0.0 - 2.1	***	*** - ***	(no)	(no) - (no)	0.3	0.1 - 1.8
Employment status								
Employed	2.9	1.2 - 6.6	3.1	1.4 - 6.5	0.5	0.1 - 4.1	2.6	1.3 - 5.1
Not employed	3.1	1.7 - 5.6	6.1	3.6 - 10.2	2.2	0.8 - 6.0	3.4	2.2 - 5.3
Method of hospital payment								
Private source	1.9	0.9 - 4.0	4.7	1.8 - 11.6	0.9	0.1 - 7.7	1.9	1.0 - 3.4
Public aid	6.0	2.4 - 14.2	4.6	2.8 - 7.5	1.8	0.6 - 5.7	4.4	2.5 - 7.6
	Number (*thousands*)							
Marital status								
Married	33.9	18.4 - 62.1	6.3	1.8 - 20.6	1.5	0.2 - 10.1	41.7	24.3 - 71.3
Not married	43.5	17.9 - 98.4	24.5	14.6 - 40.6	7.7	2.4 - 23.4	77.0	45.3 - 128.5
Mother's education								
Less than 16 years	76.2	41.1 - 139.1	29.6	18.9 - 45.8	9.1	3.4 - 24.0	116.2	74.7 - 179.4
16 years or more	1.2	0.1 - 13.8	***	*** - ***	(no)	(no) - (no)	2.5	0.5 - 13.2
Employment status								
Employed	47.6	20.3 - 108.8	10.0	4.7 - 21.0	1.5	0.2 - 11.4	60.4	30.3 - 119.0
Not employed	29.9	16.5 - 53.6	20.8	12.2 - 34.8	7.6	2.8 - 20.3	58.3	37.5 - 90.0
Method of hospital payment								
Private source	36.3	17.3 - 75.4	6.1	2.4 - 15.0	2.2	0.3 - 18.4	44.6	24.7 - 80.1
Public aid	41.1	16.3 - 98.3	24.7	15.1 - 40.0	6.9	2.2 - 21.4	74.1	42.4 - 127.4

[1] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

married, had less than 16 years of formal education, were not currently employed, and relied on public aid for payment of hospital care. This pattern appeared to be consistent across the three race/ethnic groups, with the exception of black rates for Method of Payment. Rates for whites and blacks were observed as consistently higher than the rates for Hispanics. There was no consistency in the direction of differences in the rates between whites and blacks within the various categories of the demographic variables, suggesting that complex interrelationships of demographic factors and marijuana use among these two race/ethnic groups may exist.

Considering Marital Status, the difference between the total rates of marijuana use for married women (1.5 percent) and not married women (5.8 percent) was statistically significant ($p<.01$). The pattern of lower rates among married women compared with not married women was seen in each race/ethnic group but the differences were not significant: whites, 1.6 percent vs. 8.3 percent; blacks, 4.0 percent vs. 4.8 percent; and Hispanics, 0.4 percent vs. 3.0 percent. Comparing rates by race/ethnicity within categories of marital status, the black rate was highest among married women, while the white rate was greatest within the group who were not married. The differences between race/ethnic groups were not significant.

By Mother's Education, mothers with less than 16 years of education had a total marijuana use rate of 3.5 percent, compared to 0.3 percent for those with 16 years or more of education ($p<.01$). Whites with less than 16 years of education also had a higher rate—3.9 percent vs. 0.2 percent ($p<.01$). Within education categories, among those with less than 16 years of education, the black rate (4.7 percent) was higher than the rates for whites (3.9 percent) and Hispanics (1.5 percent); the difference between black and Hispanic rates was significant ($p<.05$).

The estimates of marijuana use by Employment Status were generally lower in those who were employed, but the differences between rates by employment category were small. The total rate was 2.6 percent in women who were employed and 3.4 percent in those who were not employed. Comparative rates among whites were 2.9 percent for those employed and 3.1 percent for women not employed, while the respective rates for blacks were 3.1 percent vs. 6.1 percent, and for Hispanics, 0.5 percent vs. 2.2 percent. The rates for whites and blacks were noted to be greater than the Hispanic rates within both employment categories, but the differences did not achieve statistical significance.

By Method of Hospital Payment, the total rate of marijuana use was 1.9 percent among those reporting private sources of payment and 4.4 percent for those reporting public aid ($p<.05$). The direction of the differences between rates by payment category were not consistent by race/ethnic group. Rates for those women with private sources and public aid, respectively, were: whites, 1.9 percent vs. 6.0 percent; blacks, 4.7 percent vs. 4.6 percent; and Hispanics, 0.9 percent vs. 1.8 percent. The black rate was the highest within the category of private sources of payment, while the white rate was the greatest within the group indicating public aid (differences not significant).

4.3.1.3 Cocaine (All Forms)

Consistent differences were seen in total rates of cocaine use between categories of all four demographic variables (table 4-9). The highest rates were found in those women who were not married, had less than 16 years of formal education, were not currently employed, and used some public aid in payment for hospital care. The observed patterns of differences between categories of all four demographic variables were generally consistent among the three race/ethnic groups, but these differences were generally small. Within categories of the four demographic variables, rates for blacks were often significantly higher than the rates for Hispanics and whites.

By category of Marital Status, the total rates of cocaine use were 0.2 percent for married mothers and 3.1 percent for not married mothers ($p < .01$). The pattern of lower rates among married mothers compared to not married mothers was seen in all race/ethnic groups: whites, 0.1 percent vs. 1.4 percent; blacks, 1.4 percent vs. 5.5 percent ($p < .05$); and Hispanics no use vs. 1.7 percent. Within categories of marital status, the observed black rate was highest among both married and not married women (differences not significant), and the black rate was significantly greater ($p < .05$) than the white rate among those who were not married.

By Mother's Education, women with less than 16 years of education had an observed total rate of cocaine use of 1.3 percent, compared to 0.4 percent for those with 16 years or more of education ($p < .05$). Differences between education categories were small for whites and Hispanics; the comparison for blacks involved a suppressed rate. Among those with less than 16 years of education, the black rate (4.3 percent) was higher than the rates for whites (0.5 percent) and Hispanics (0.7 percent); the difference between the rates for blacks and whites was significant ($p < .01$). Comparisons within the group with 16 years or more of education could not be tested.

The observed estimates of cocaine use by Employment Status generally appeared to be lower in those who were employed, although the differences between rates were small. The observed total rate was 0.6 percent in women who were employed and 1.8 for women who were not employed ($p < .05$). Comparative rates for whites were 0.2 percent for those employed and 0.7 percent for women not employed, while the respective rates for blacks were 3.7 percent vs. 5.3 percent. Employed Hispanic respondents reported no use of cocaine, and the estimated rate among those who were not employed was 1.3 percent. Within the group of those not employed, the difference between rates for black and white women achieved significance ($p < .01$).

Regarding Method of Hospital Payment, the observed total rate of cocaine use was 0.4 percent among those reporting private sources of payment and 2.2 percent for those reporting public aid ($p < .01$). The differences between rates for the payment categories by race/ethnic group were small. Comparative rates for those with private and public sources, respectively, were: whites, 0.2 percent vs. 0.8 percent; blacks, 4.0 percent vs. 4.6 percent; and Hispanics, no reported use vs. 1.2 percent. Among those with public aid, the black rate was significantly higher ($p < .01$) than the rate for whites.

Table 4-9. Estimated percentage and number (in thousands) of women who used cocaine (all forms) during pregnancy, by marital status, education, employment status, method of payment, and race/ethnicity: United States

Demographic characteristic	Race/ethnicity							
	White, non-Hispanic		Black, non-Hispanic		Hispanic		Total [1]	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Marital status								
Married	0.1	0.0 - 0.7	1.4	0.3 - 7.0	(no)	(no) - (no)	0.2	0.0 - 0.6
Not married	1.4	0.3 - 5.5	5.5	3.5 - 8.6	1.7	0.4 - 6.8	3.1	2.1 - 4.6
Mother's education								
Less than 16 years	0.5	0.2 - 1.4	4.3	2.7 - 6.8	0.7	0.2 - 2.8	1.3	0.8 - 1.9
16 years or more	(no)	(no) - (no)	***	*** - ***	(no)	(no) - (no)	0.4	0.1 - 1.9
Employment status								
Employed	0.2	0.0 - 1.4	3.7	1.8 - 7.2	(no)	(no) - (no)	0.6	0.3 - 1.3
Not employed	0.7	0.2 - 2.0	5.3	3.0 - 9.3	1.3	0.3 - 5.1	1.8	1.1 - 3.0
Method of hospital payment								
Private source	0.2	0.0 - 1.0	4.0	1.4 - 10.7	(no)	(no) - (no)	0.4	0.1 - 1.0
Public aid	0.8	0.3 - 2.7	4.6	2.8 - 7.5	1.2	0.3 - 4.9	2.2	1.4 - 3.4
	Number (*thousands*)							
Marital status								
Married	1.9	0.3 - 14.0	2.3	0.5 - 11.1	(no)	(no) - (no)	4.2	1.1 - 15.5
Not married	7.3	1.8 - 28.8	27.7	17.5 - 43.3	4.4	1.1 - 17.1	40.9	27.4 - 60.6
Mother's education								
Less than 16 years	9.2	3.0 - 28.3	26.9	16.8 - 42.6	4.4	1.2 - 16.5	42.0	27.8 - 63.2
16 years or more	(no)	(no) - (no)	***	*** - ***	(no)	(no) - (no)	3.1	0.7 - 13.8
Employment status								
Employed	2.6	0.3 - 22.3	11.9	5.9 - 23.4	(no)	(no) - (no)	14.5	7.2 - 29.1
Not employed	6.6	2.3 - 19.1	18.1	10.2 - 31.6	4.4	1.1 - 17.3	30.6	18.2 - 51.1
Method of hospital payment								
Private source	3.4	0.6 - 18.2	5.2	1.9 - 13.8	(no)	(no) - (no)	8.6	3.2 - 23.3
Public aid	5.8	1.8 - 18.8	24.8	15.1 - 40.1	4.4	1.0 - 18.3	36.5	23.3 - 56.9

[1] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

4.3.2 Patterns in Use of Alcohol and Cigarettes during Pregnancy

4.3.2.1 Alcohol

The rate distributions for alcohol use by categories of the demographic variables (table 4-10) were the reverse of those for illicit drugs. The highest rates were found in those women who were married, had 16 years or more of formal education, were currently employed, and relied on private sources of payment for hospital care. Differences in total rates between categories for all demographic variables were seen; however, the direction of the differences between payment categories was not always the same for each of the race/ethnic groups. Within both categories of all four demographic variables, rates for whites were consistently higher than the rates for blacks and Hispanics, and these differences between rates often achieved statistical significance.

Considering Marital Status, the total rate of alcohol use for married women was 19.6 percent and 17.3 percent for not married women. The differences between observed rates for married and not married women by race/ethnic group were small and no consistent pattern was apparent. The rates for married and not married women, respectively, were: whites, 22.4 percent vs. 23.7 percent; blacks, 16.2 percent vs. 15.7 percent; and Hispanics, 8.6 percent vs. 8.8 percent. Among married mothers, the white rate was significantly greater ($p < .01$) than that for Hispanics. For mothers who were not married, the rate for whites was significantly higher than the rates for both blacks ($p < .05$) and Hispanics ($p < .01$).

By Mother's Education, women with 16 or more years of education had a total rate of 26.6 percent for alcohol use, compared to 17.1 percent for those with less than 16 years of education ($p < .01$). Whites with 16 or more years of education also had a higher rate than whites with less education—29.2 percent vs. 20.5 percent ($p < .01$). There was little difference in black rates (15.8 percent vs. 15.5 percent); one estimate for Hispanics was suppressed. For women with less than 16 years of education, the rate for whites was 20.5 percent, the rate for blacks was 15.8 percent, and Hispanics had a rate of 8.7 percent. The difference between white and Hispanic rates was significant ($p < .01$). In those with 16 years or more of education, the white rate was 29.2 percent, the black rate was 15.5 percent (difference not significant), and the Hispanic rate was suppressed.

For categories of Employment Status, the observed total estimate of alcohol use among mothers who were employed (20.3 percent) was higher than the rate for mothers who were not employed (16.8 percent) ($p < .05$). The direction of the differences between categories of Employment Status was not consistent within race/ethnic groups. The rates for those employed and not employed, respectively, were: whites, 24.2 percent vs. 20.0 percent; blacks, 14.6 percent vs. 16.9 percent; and Hispanics, 8.1 percent vs. 9.1 percent. Within the category of women who were employed, the rate for whites was significantly greater than rates for blacks ($p < .05$) and Hispanics ($p < .01$). For those who were not employed, only the difference between white and Hispanic rates was significant ($p < .01$).

Table 4-10. Estimated percentage and number (in thousands) of women who used alcohol during pregnancy, by marital status, education, employment status, method of payment, and race/ethnicity: United States

Demographic characteristic	White, non-Hispanic Estimate	White, non-Hispanic 95% C.I.	Black, non-Hispanic Estimate	Black, non-Hispanic 95% C.I.	Hispanic Estimate	Hispanic 95% C.I.	Total[1] Estimate	Total[1] 95% C.I.
	Percentage							
Marital status								
Married	22.4	18.8 - 26.4	16.2	9.9 - 25.4	8.6	4.8 - 14.9	19.6	16.7 - 22.8
Not married	23.7	18.9 - 29.4	15.7	11.1 - 21.6	8.8	4.6 - 16.3	17.3	13.7 - 21.6
Mother's education								
Less than 16 years	20.5	17.1 - 24.4	15.8	11.1 - 22.0	8.7	5.3 - 14.1	17.1	14.5 - 20.0
16 years or more	29.2	23.6 - 35.4	15.5	6.1 - 34.1	***	*** - ***	26.6	21.6 - 32.4
Employment status								
Employed	24.2	20.1 - 28.9	14.6	9.8 - 21.2	8.1	4.6 - 14.1	20.3	17.1 - 23.8
Not employed	20.0	16.3 - 24.3	16.9	11.3 - 24.6	9.1	5.5 - 14.7	16.8	14.0 - 20.1
Method of hospital payment								
Private source	24.5	20.8 - 28.6	19.6	12.8 - 29.0	8.5	3.8 - 18.0	21.9	18.9 - 25.2
Public aid	17.5	12.8 - 23.6	14.9	10.2 - 21.1	8.8	4.7 - 16.0	14.5	11.5 - 18.0
	Number (*thousands*)							
Marital status								
Married	463.7	390.3 - 546.4	25.9	15.8 - 40.4	31.4	17.5 - 54.5	527.3	450.6 - 613.4
Not married	124.8	99.4 - 154.5	79.1	56.2 - 109.1	22.3	11.6 - 41.1	229.7	182.4 - 286.2
Mother's education								
Less than 16 years	399.8	333.0 - 476.1	99.7	70.0 - 138.7	51.6	31.3 - 83.2	559.8	474.7 - 656.6
16 years or more	188.8	152.8 - 229.2	5.3	2.1 - 11.7	***	*** - ***	197.1	159.8 - 239.5
Employment status								
Employed	399.0	330.8 - 476.2	47.2	31.8 - 68.5	22.5	12.7 - 39.0	471.1	397.9 - 553.9
Not employed	189.6	154.4 - 230.4	57.7	38.4 - 84.0	31.1	18.8 - 50.1	285.8	238.0 - 341.0
Method of hospital payment								
Private source	467.7	397.2 - 546.2	25.3	16.5 - 37.3	20.4	9.0 - 43.3	516.0	444.8 - 594.9
Public aid	120.8	88.0 - 162.6	79.7	54.7 - 113.3	33.3	17.7 - 60.2	241.0	191.8 - 300.3

[1] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

By Method of Hospital Payment, the observed total rate of alcohol use was 21.9 percent among those reporting private sources of payment and 14.5 percent for those reporting public aid ($p<.01$). Rates for the payment categories within race/ethnic group were higher for whites and blacks who reported private sources, but there was little difference in the Hispanic rates between payment categories. Rates for those with private sources and public aid, respectively, were: whites, 24.5 percent vs. 17.5 percent ($p<.05$); blacks, 19.6 percent vs. 14.9 percent; and Hispanics, 8.5 percent vs. 8.8 percent. Within the category of private sources of payment, significant differences were found between rates for whites and Hispanics ($p<.01$) and between black and Hispanic rates ($p<.05$). For those reporting public aid, the white rate was significantly higher than the rate for Hispanics ($p<.05$).

4.3.2.2 Cigarettes

The rate distributions for cigarette use were associated with the categories of marital status, education, and payment, but not employment (table 4-11). The highest total rates were found in those who were not married, who had less than 16 years of education, and who depended on some public aid for hospital payment. This pattern was observed consistently in each of the three race/ethnic groups, except between the employment categories. Within demographic categories, the rates for whites and blacks were higher than Hispanic rates. Differences in rates both between and within categories of the demographic variables were often significant.

Starting with Marital Status, the difference between the total rates of cigarette use for married mothers (15.8 percent) and not married mothers (29.6 percent) was statistically significant ($p<.01$). This direction of differences between married and not married mothers was consistent in each race/ethnic group: whites, 18.1 percent vs. 49.1 percent ($p<.01$); blacks, 14.4 percent vs. 21.5 percent; and Hispanics, 5.3 percent vs. 6.4 percent. The white and black rates were observed to be higher than the Hispanic rates for both married and not married mothers. Within the category of married mothers, the white rate was significantly higher ($p<.01$) than the Hispanic rate. For women who were not married, the rate for whites was significantly higher than the rates for both blacks ($p<.05$) and Hispanics ($p<.01$), and the black rate was significantly greater than the Hispanic rate ($p<.01$).

By Mother's Education, women with less than 16 years of education had a total rate of cigarette use of 23.8 percent, compared with 5.2 percent for those with 16 years or more of education ($p<.01$). Whites with less than 16 years of education also had a higher rate than those with 16 years or more of education (30.7 percent vs. 5.4 percent) ($p<.01$). Within the category of less than 16 years of education, the rate for whites was 30.7 percent, for blacks the rate was 20.3 percent, and Hispanics had a rate of 6.0 percent. The white rate was significantly higher than the rates for both blacks ($p<.05$) and Hispanics ($p<.01$), and the rate for blacks also was significantly greater than that for Hispanics ($p<.01$). Comparisons within the group having 16 years or more of education could not be tested.

Table 4-11. Estimated percentage and number (in thousands) of women who used cigarettes during pregnancy, by marital status, education, employment status, method of payment, and race/ethnicity: United States

Demographic characteristic	Race/ethnicity							
	White, non-Hispanic		Black, non-Hispanic		Hispanic		Total[1]	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Marital status								
Married	18.1	15.2 - 21.4	14.4	7.6 - 25.7	5.3	2.7 - 10.1	15.8	13.4 - 18.7
Not married	49.1	41.8 - 56.4	21.5	16.7 - 27.2	6.4	3.6 - 11.3	29.6	26.4 - 32.9
Mother's education								
Less than 16 years	30.7	27.7 - 33.8	20.3	15.1 - 26.6	6.0	4.0 - 9.1	23.8	21.9 - 25.8
16 years or more	5.4	3.1 - 9.1	***	*** - ***	(no)	(no) - (no)	5.2	3.1 - 8.7
Employment status								
Employed	23.6	20.2 - 27.3	17.5	12.2 - 24.5	6.1	3.4 - 10.9	20.3	17.8 - 23.1
Not employed	25.7	20.4 - 31.8	22.0	15.2 - 30.7	5.4	3.1 - 9.5	20.5	17.0 - 24.4
Method of hospital payment								
Private source	16.0	13.5 - 18.8	13.8	8.2 - 22.4	4.0	1.1 - 13.2	14.3	11.7 - 17.3
Public aid	47.6	37.7 - 57.6	21.2	15.7 - 28.2	6.9	4.3 - 10.8	29.0	24.7 - 33.7
	Number (*thousands*)							
Marital status								
Married	374.5	314.7 - 442.8	23.0	12.1 - 41.0	19.4	9.9 - 37.1	427.1	360.7 - 503.1
Not married	258.4	220.1 - 296.9	108.6	84.4 - 137.4	16.2	9.0 - 28.5	392.5	351.1 - 436.7
Mother's education								
Less than 16 years	598.1	540.0 - 659.6	127.9	95.5 - 167.8	35.6	23.4 - 53.5	781.2	718.6 - 847.5
16 years or more	34.8	20.3 - 58.6	***	*** - ***	(no)	(no) - (no)	38.5	22.6 - 64.5
Employment status								
Employed	389.0	333.6 - 450.4	56.6	39.4 - 79.3	17.0	9.4 - 30.2	471.6	412.9 - 536.2
Not employed	243.9	193.4 - 302.4	74.9	51.7 - 104.8	18.6	10.5 - 32.3	348.1	289.1 - 415.7
Method of hospital payment								
Private source	304.8	257.4 - 359.0	17.8	10.5 - 28.8	9.6	2.7 - 31.8	336.7	275.3 - 409.0
Public aid	328.1	260.3 - 397.3	113.8	83.9 - 150.8	26.0	16.3 - 40.7	483.0	411.5 - 561.4

[1] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

By Employment Status, the total estimate of cigarette use among women who were employed (20.3 percent) was little different than the rate for women who were not employed (20.5 percent). The direction of differences between categories of Employment Status was not consistent among the race/ethnic groups. The rates for those employed and not employed, respectively, were: whites, 23.6 percent vs. 25.7 percent; blacks, 17.5 percent vs. 22.0 percent; and Hispanics, 6.1 percent vs. 5.4 percent. Within the category of employed women, the rates for whites and for blacks were significantly greater than the rate for Hispanics (both $p < .01$). For those who were not employed, both white and black rates were again significantly higher than the Hispanic rate (both $p < .01$).

For categories of Method of Hospital Payment, the total rate of cigarette use was 14.3 percent among those reporting private sources of payment and 29.0 percent for those reporting public aid ($p < .01$). Between the payment categories, rates were consistently higher for women who reported public aid in all three race/ethnic groups. Rates for those with private sources and public aid, respectively, were: whites, 16.0 percent vs. 47.6 percent ($p < .01$); blacks, 13.8 percent vs. 21.2 percent; and Hispanics, 4.0 percent vs. 6.9 percent. Within the category of private sources of payment, the white rate was significantly higher than the Hispanic rate ($p < .01$). For those reporting public aid, the white rate was significantly higher than the rates for blacks ($p < .01$) and Hispanics ($p < .01$), and the difference between black and Hispanic rates also was significant ($p < .01$).

4.4 Estimates of Substance Use by Time Period, Before and During Pregnancy

4.4.1 Explanation of Time Periods

For most substances included in the survey, the questionnaire was structured to obtain data on use during each of the sequential, nonoverlapping time periods. These periods, each approximately 3 months in duration, were based on the estimated date of conception, and were defined as the period 3 months prior to conception and each of the three trimesters of the pregnancy. This scheme provided the opportunity to observe trends in substance use over time, from just before pregnancy through the last months of pregnancy. There was interest in the extent to which rates of use would change after the women became aware that they were pregnant, and in the level of substance use maintained over the course of the pregnancy.

In addition to these four basic time periods, data on use during the last 3 days before delivery were collected for most substances. These data were obtained for comparison with the results of urine drug tests, to provide a means to assess potential bias in the estimates from self-reported use. Estimates for the third trimester by definition included reports of use during the last 3 days. Comparisons of self-reported use with urine test results are discussed in appendix B.

Certain other time-related estimates were developed to allow comparison with rates of substance use in the general population, such as those obtained from the National Household Survey of Drug Abuse (NHSDA) conducted periodically by SAMHSA. NHSDA estimates are developed for women who ever tried the specific substance during their lifetime (ever used), during the past year (prior year), or within the past month (current use). Selected estimates from the National Pregnancy and Health Survey (NPHS) were made for the first two of these periods. Rates for "Ever used" are available for marijuana or hashish, cocaine, and cigarettes. Rates of use during the past 12 months were estimated for a number of substances in this survey; responses across the four individual 3-month periods mentioned earlier were combined for these 12-month estimates. Data on use specifically in the past month were not collected in this survey.

Rates and numbers of women for each of these time periods are provided here. As the rates for each time period were derived independently and based on the total sample, trends across time represent changes in behavior from period to period of the total target population. That is, the trends do not necessarily reflect changes over time among only those women who were using a substance prior to becoming pregnant. Indeed, there were a number of women in the survey who reported use of a substance during pregnancy but not in the 3 months before. This is the reason that the rates of use during the past 12 months are as high or higher than the rates in the 3 months before pregnancy, although, in general, rates of use declined during pregnancy.

Tables of estimates by time period are provided in this section for any illicit drug use and for use of marijuana, cocaine, crack cocaine, alcohol, and cigarettes. Statistical tests of comparisons between rates in these tables were made within each time period for differences between the total rates for race/ethnic groups and between the total rates for age groups, separately. Comparisons within age groups between race/ethnic groups, or within race/ethnic groups between ages, were not tested.

In addition, differences between the total rates for race/ethnic and age groups in the 3 months before pregnancy and in the second trimester were tested for significance. This provided a simple tool for assessing a change in substance use after women became aware of their pregnancy, assuming that almost all women would be aware of their pregnancy by the end of the first trimester, and that any marked decrease in substance use would be seen in the rates for the second trimester.

4.4.2 Trends in Use of Any Illicit Drug

4.4.2.1 Use During the Past 12 Months

As would be expected, patterns of use during the past 12 months reflected those seen earlier for use during pregnancy (table 4-12). The overall rate for blacks (10.3 percent) was significantly higher than that of whites (5.0 percent) ($p<0.1$) and Hispanics (4.3 percent) ($p<.05$). There were small differences among the total rates by age: 6.6 percent in those under 25 years, 5.9 percent in those age 25-29, and 4.4 percent in women age 30 and older.

The observed rates across the three age groups within race/ethnic groups showed that white rates decreased with increasing age from 8.3 percent to 4.2 percent to 2.9 percent, while

Table 4-12a. Estimated percentage of women who used any illicit drug[1] before and during pregnancy, by specified time periods, race/ethnicity, and age: United States

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Use during past 12 months [2]								
White, non-Hispanic	8.3	5.0 - 13.6	4.2	2.3 - 7.7	2.9	1.4 - 5.9	5.0	3.3 - 7.5
Black, non-Hispanic	4.2	2.2 - 7.7	15.9	9.1 - 26.3	19.7	12.9 - 29.0	10.3	7.6 - 13.7
Hispanic	5.6	3.2 - 9.5	4.7	1.7 - 12.5	0.8	0.1 - 7.3	4.3	2.6 - 7.1
Total [4]	6.6	4.6 - 9.4	5.9	3.8 - 9.2	4.4	2.8 - 6.6	5.7	4.3 - 7.5
Use 3 months before pregnancy								
White, non-Hispanic	8.3	5.0 - 13.6	4.2	2.3 - 7.7	2.7	1.3 5.4	5.0	3.3 - 7.3
Black, non-Hispanic	3.5	1.8 - 6.8	12.2	6.9 - 20.6	19.1	12.4 28.3	8.8	6.5 - 11.9
Hispanic	4.6	2.5 - 8.3	4.7	1.7 - 12.5	0.8	0.1 7.3	3.8	2.1 - 6.6
Total [4]	6.3	4.4 - 8.8	5.4	3.5 - 8.2	4.2	2.8 - 6.2	5.3	4.1 - 6.9
Use during 1st trimester								
White, non-Hispanic	4.7	1.8 - 11.8	1.9	0.8 - 4.6	2.5	1.3 - 4.7	3.0	1.6 - 5.7
Black, non-Hispanic	2.8	1.3 - 5.9	11.2	5.9 - 20.2	14.1	8.5 - 22.7	7.2	5.1 - 10.1
Hispanic	1.7	0.6 - 5.0	1.8	0.4 - 7.3	***	*** - ***	1.5	0.5 - 3.9
Total [4]	3.6	1.8 - 7.2	3.3	1.9 - 5.7	3.4	2.3 - 5.1	3.5	2.2 - 5.3
Use during 2nd trimester								
White, non-Hispanic	1.7	0.6 - 4.8	2.1	0.9 - 4.8	1.2	0.6 - 2.6	1.6	1.0 - 2.7
Black, non-Hispanic	2.0	0.8 - 4.9	7.0	3.4 - 13.9	11.7	6.7 - 19.9	5.2	3.5 - 7.8
Hispanic	2.0	0.3 - 10.4	0.9	0.1 - 6.5	***	*** - ***	1.3	0.3 - 5.3
Total [4]	1.8	0.8 - 3.7	2.6	1.3 - 4.9	2.3	1.4 - 3.6	2.1	1.4 - 3.2
Use during 3rd trimester								
White, non-Hispanic	1.2	0.3 - 5.0	1.7	0.7 - 4.3	1.4	0.7 - 3.0	1.5	0.8 - 2.6
Black, non-Hispanic	2.3	1.0 - 5.3	8.9	4.4 - 17.1	10.8	6.0 - 18.8	5.7	3.8 - 8.3
Hispanic	***	*** - ***	1.5	0.3 - 7.0	***	*** - ***	0.6	0.2 - 2.0
Total [4]	1.3	0.6 - 2.9	2.7	1.5 - 5.0	2.2	1.4 - 3.6	2.0	1.4 - 2.9

Table 4-12a. Estimated percentage of women who used any illicit drug[1] before and during pregnancy, by specified time periods, race/ethnicity, and age: United States (continued)

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Use during last 3 days [3]								
White, non-Hispanic	1.2	0.3 - 5.0	1.4	0.5 - 3.8	0.7	0.2 - 1.9	1.0	0.6 - 1.8
Black, non-Hispanic	1.3	0.4 - 4.0	2.9	0.8 - 9.8	5.7	2.4 - 12.8	2.6	1.5 - 4.7
Hispanic	(no)	(no) - (no)	***	*** - ***	(no)	(no) - (no)	***	*** - ***
Total [4]	1.0	0.3 - 2.7	1.4	0.6 - 3.1	1.1	0.5 - 2.2	1.1	0.7 - 1.7

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[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, or methadone during the period.

[2] Use 3 months before pregnancy and during pregnancy. May be less than 12 months if early delivery.

[3] During last 3 days before delivery.

[4] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

*** ***-*** Low precision, no estimate reported.

(no) (no)-(no) No reported use, C.I. not computed.

0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table 4-12b. Estimated number (in thousands) of women who used any illicit drug[1] before and during pregnancy, by specified time periods, race/ethnicity, and age: United States

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number (*thousands*)							
Use during past 12 months [2]								
White, non-Hispanic	70.4	42.1 - 114.8	30.8	16.7 - 55.9	29.3	14.0 - 60.6	130.5	86.7 - 194.6
Black, non-Hispanic	15.2	8.1 - 27.9	26.1	15.0 - 43.1	26.9	17.6 - 39.5	68.2	50.7 - 90.8
Hispanic	18.1	10.5 - 30.8	7.3	2.6 - 19.6	1.1	0.1 - 10.0	26.6	15.9 - 44.1
Total [4]	105.6	74.0 - 149.4	64.2	41.2 - 98.9	58.8	38.4 - 89.4	228.7	172.9 - 301.1
Use 3 months before pregnancy								
White, non-Hispanic	70.4	42.1 - 114.8	30.8	16.7 - 55.9	27.9	13.8 55.6	129.0	86.9 - 190.0
Black, non-Hispanic	12.7	6.4 - 24.9	19.9	11.3 - 33.7	26.0	16.9 38.5	58.7	43.1 - 79.3
Hispanic	14.8	8.1 - 26.7	7.3	2.6 - 19.6	1.1	0.1 10.0	23.3	13.1 - 41.0
Total [4]	99.9	70.2 - 140.9	58.1	37.6 - 88.7	56.6	37.7 - 84.2	214.5	164.2 - 279.2
Use during 1st trimester								
White, non-Hispanic	39.8	15.1 - 100.1	14.1	5.9 - 33.1	25.2	13.0 - 48.2	79.1	41.5 - 148.7
Black, non-Hispanic	10.2	4.7 - 21.7	18.4	9.7 - 33.1	19.3	11.5 - 30.9	47.9	33.9 - 67.0
Hispanic	5.6	1.9 - 16.1	2.9	0.7 - 11.5	***	*** - ***	9.1	3.4 - 24.2
Total [4]	57.0	27.9 - 114.2	35.3	20.2 - 61.1	46.5	31.5 - 68.3	138.8	89.8 - 213.2
Use during 2nd trimester								
White, non-Hispanic	14.1	4.8 - 40.4	15.0	6.4 - 34.5	12.4	5.7 - 27.1	41.6	25.0 - 68.9
Black, non-Hispanic	7.4	3.0 - 18.0	11.4	5.5 - 22.8	16.0	9.1 - 27.1	34.9	23.2 - 52.0
Hispanic	6.3	1.1 - 33.5	1.4	0.2 - 10.3	***	*** - ***	8.3	2.0 - 32.9
Total [4]	27.9	12.9 - 59.6	27.8	14.4 - 52.9	30.5	18.8 - 49.2	86.2	56.8 - 130.4
Use during 3rd trimester								
White, non-Hispanic	10.5	2.5 - 41.9	12.6	5.0 - 31.3	14.9	7.2 - 30.3	38.0	20.9 - 68.5
Black, non-Hispanic	8.5	3.7 - 19.5	14.5	7.2 - 28.0	14.7	8.1 - 25.6	37.8	25.6 - 55.4
Hispanic	***	*** - ***	2.4	0.5 - 10.9	***	*** - ***	3.5	1.0 - 12.4
Total [4]	20.8	9.3 - 46.4	29.5	15.9 - 54.3	30.2	18.6 - 48.8	80.5	55.3 - 117.0

Table 4-12b. Estimated number (in thousands) of women who used any illicit drug[1] before and during pregnancy, by specified time periods, race/ethnicity, and age: United States (continued)

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number (*thousands*)							
Use during last 3 days[3]								
White, non-Hispenic	10.5	2.5 - 41.9	10.0	3.6 - 27.3	6.7	2.2 - 20.0	27.2	15.4 - 47.9
Black, non-Hispanic	4.9	1.6 - 14.6	4.8	1.4 - 16.1	7.8	3.3 - 17.5	17.5	9.8 - 31.0
Hispanic	(no)	(no) - (no)	***	*** - ***	(no)	(no) - (no)	***	*** - ***
Total[4]	15.4	5.4 - 43.3	15.1	6.8 - 33.2	14.5	6.9 - 30.4	45.0	29.3 - 69.0

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, or methadone during the period.

[2] Use 3 months before pregnancy and during pregnancy. May be less than 12 months if early delivery.

[3] During last 3 days before delivery.

[4] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

*** ***-*** Low precision, no estimate reported.

(no) (no)-(no) No reported use, C.I. not computed.

0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

rates for blacks increased with increasing age from 4.2 percent to 15.9 percent to 19.7 percent. Hispanic rates also decreased with increasing age; the Hispanic rate was 5.6 percent in women under 25 years, 4.7 percent in those age 25-29, and only 0.8 percent in women age 30 years and older. (Statistical tests of age differences within race/ethnic groups were not made.)

4.4.2.2 Time Trends in Use of Any Illicit Drug

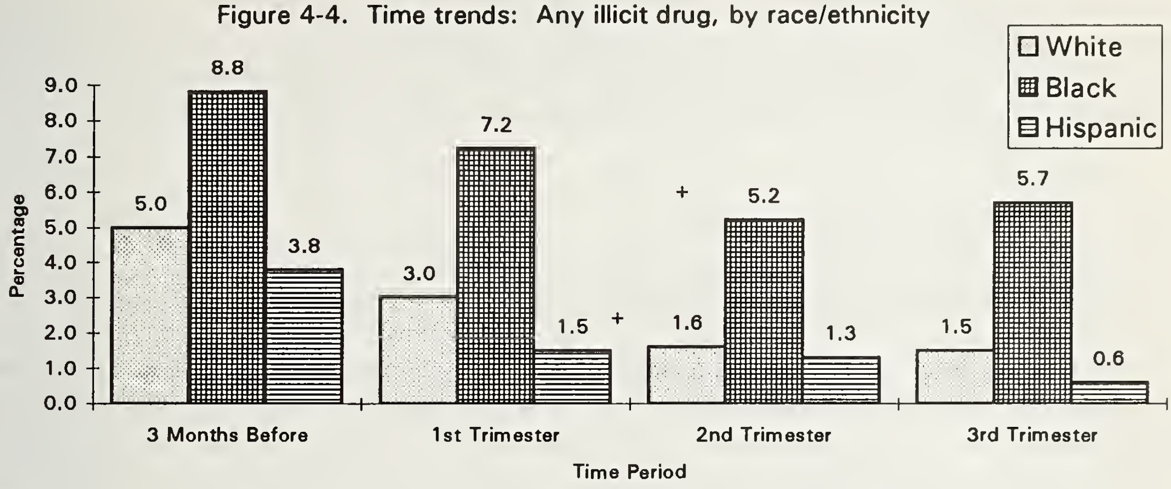
In regard to trends over the past year, the total rate of any illicit drug use was 5.3 percent in the 3 months before pregnancy, decreasing to 3.5 percent in the first trimester, 2.1 percent in the second trimester, and 2.0 percent in the third trimester (see table 4-12). The decline in the rates from 3 months before pregnancy to the second trimester (a decrease of 3.2 percent) was significant ($p < .01$).

The trends in rates by race/ethnic group seen in table 4-12 are illustrated in figure 4-4. The total rate for each race/ethnic group appeared to decline through the first and second trimester, with only a small change in the third trimester. For blacks, rates decreased from 8.8 percent before pregnancy to 5.2 percent in the second trimester ($p < .01$), In comparison, white rates declined from 5.0 percent before pregnancy to 1.6 percent in the second trimester ($p < .01$), and Hispanic rates changed from 3.8 percent before pregnancy to 1.3 percent by the second trimester. In general, the total rates among blacks were significantly higher than rates for whites and Hispanics within each of the four time periods. Differences between white and Hispanic rates were small. Significant differences within the time periods were as follows:

- Three months before: blacks vs. whites ($p < .05$), blacks vs. Hispanics ($p < .05$);
- First trimester: blacks vs. whites ($p < .05$), blacks vs. Hispanics ($p < .05$);
- Second trimester: blacks vs. whites ($p < .01$); and
- Third trimester: blacks vs. whites ($p < .01$), blacks vs. Hispanics ($p < .01$).

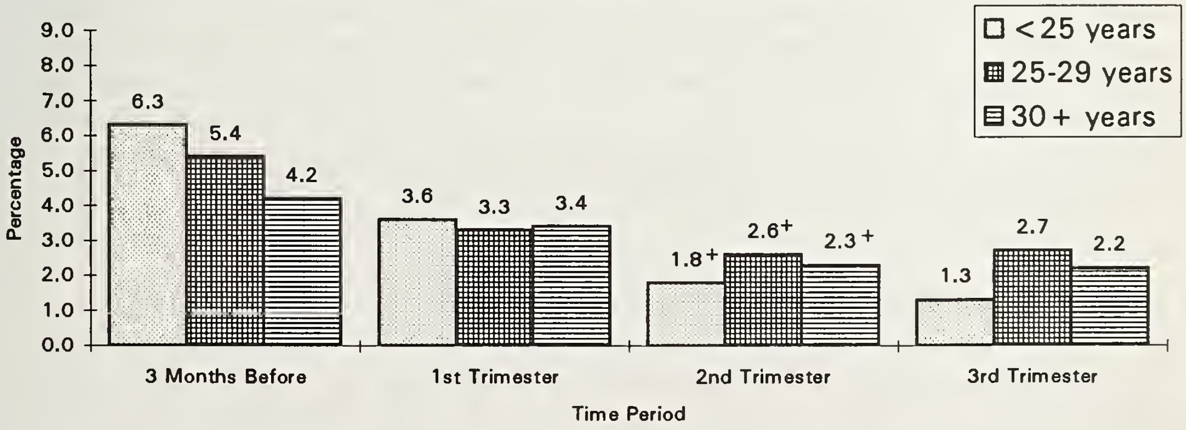
The rates in each age group appeared to decrease in the first trimester and continued to decline over the pregnancy, but not to the same extent (table 4-12). The decline in rates, as pictured in figure 4-5, was greatest in the youngest age group and more moderate in the older age groups. Among women under 25 years the rate before pregnancy was 6.3 percent, decreasing to 1.8 percent by the second trimester ($p < .01$). For women age 25-29 rates changed from 5.4 percent before pregnancy to 2.6 percent in the second trimester ($p < .01$), while in women age 30 and older, a decrease from 4.2 percent before pregnancy to 2.3 percent in the second trimester ($p < .05$) was observed. There were small differences between age groups in the total rates within each time period.

Figure 4-4. Time trends: Any illicit drug, by race/ethnicity



+ Significant decrease compared with rate 3 months before pregnancy for whites ($p<0.1$) and blacks ($p<.01$).

Figure 4-5. Time trends: Any illicit drug, by age group



+ Significant decrease compared with 3 months before pregnancy for age <25 ($p<.01$), age 25-29 ($p<.01$) and age 30+ ($p<.05$).

4.4.2.3 Any Illicit Drug Use in the Last 3 Days Before Delivery

The total rate of use for all women was 1.1 percent in the last 3 days before delivery, about half of the total rate (2.0 percent) in the third trimester (table 4-12). The total rate for blacks (2.6 percent) was higher than the white rate (1.0 percent). Black rates also appeared to be higher than white rates in women 25-29 years (2.9 percent vs. 1.4 percent) and 30 years and older (5.7

percent vs. 0.7 percent), while rates for blacks and whites were about the same in the youngest age group (1.3 percent vs. 1.2 percent). Few Hispanics reported any illicit drug use just before delivery. There were small differences between the total rates for the age groups. None of the differences between race/ethnic groups or age categories were statistically significant.

4.4.3 Trends in Use of Marijuana

4.4.3.1 Ever Used Marijuana or Hashish

Regarding the first time category in table 4-13, information was obtained as to whether survey subjects had ever tried marijuana or hashish at any time in the past (i.e., lifetime use). (The reader should note that only the estimates for "Ever used" in table 4-13 include both marijuana and hashish; other estimates found in this report are based on questions that referred to use of marijuana alone.) The total observed rate was significantly higher among whites (41.0 percent), compared with blacks (18.9 percent) ($p < .01$) and Hispanics (12.6 percent) ($p < .01$).

Total rates for lifetime use increased with age: 25.3 percent for women under 25 years, 33.7 percent for those age 25-29, and 39.1 percent among those age 30 and older. The total rate for the youngest age group was significantly lower than the rates for women 25-29 years ($p < .05$) and 30 years and older ($p < .01$). Rates for both whites and blacks were observed to increase with age. For the youngest to oldest age groups, respectively, white rates were 35.8 percent, 41.8 percent, and 44.8 percent, while the corresponding rates for blacks were 13.5 percent, 18.9 percent, and 33.1 percent. The trend with increasing age was not observed for Hispanics; from youngest to oldest ages the rates were 12.9 percent, 13.0 percent, and 11.4 percent, respectively.

4.4.3.2 Use of Marijuana During the Past 12 Months

Considering use of marijuana at any time during the past year, the rate for blacks (6.2 percent) appeared the highest compared to the rate for whites (4.6 percent) or Hispanics (3.4 percent). Total rates decreased with age: 6.1 percent in those under 25 years, 4.0 percent for women age 25-29, and 3.2 percent among those age 30 and older.

The pattern within age groups was similar to that seen earlier in rates for use during pregnancy. The white rate was higher than the rates for the other two race/ethnic groups in women under 25 years (8.3 percent, vs. 4.3 percent for Hispanics and 3.2 percent for blacks). Rates among blacks were the greatest in the two older age groups. For women age 25-29, the respective rates were blacks, 8.7 percent; Hispanics, 4.0 percent; and whites, 3.1 percent. Among women age 30 and older, the black rate was 10.9 percent, the white rate was 2.6 percent, and the rate for Hispanics was 0.8 percent.

Table 4-13a. Estimated percentage of women who used marijuana before and during pregnancy, by specified time periods, race/ethnicity, and age: United States

	Age in years							
	Under 25		25-29		30 and older		Total	
Race/ethnicity	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Ever used marijuana or hashish[1]								
White, non-Hispanic	35.8	29.0 - 43.2	41.8	36.0 - 47.8	44.8	38.3 - 51.5	41.0	37.6 - 44.6
Black, non-Hispanic	13.5	9.2 - 19.4	18.9	11.3 - 29.9	33.1	24.4 - 43.2	18.9	14.7 - 24.0
Hispanic	12.9	8.6 - 18.8	13.0	7.7 - 20.9	11.4	4.0 - 28.4	12.6	9.1 - 17.1
Total [4]	25.3	21.5 - 29.4	33.7	28.6 - 39.2	39.1	33.2 - 45.5	32.2	29.2 - 35.3
Use during past 12 months [2]								
White, non-Hispanic	8.3	5.0 - 13.6	3.1	1.7 - 5.6	2.6	1.3 - 5.4	4.6	3.1 - 6.8
Black, non-Hispanic	3.2	1.6 - 6.5	8.7	4.3 - 17.0	10.9	6.0 - 18.9	6.2	4.2 - 8.9
Hispanic	4.3	2.3 - 7.8	4.0	1.2 - 12.4	0.8	0.1 - 7.3	3.4	1.9 - 6.2
Total [4]	6.1	4.3 - 8.8	4.0	2.6 - 6.2	3.2	2.0 - 5.0	4.6	3.5 - 6.0
Use 3 months before pregnancy								
White, non-Hispanic	8.2	4.9 - 13.3	3.1	1.7 - 5.6	2.6	1.3 - 5.4	4.6	3.1 - 6.7
Black, non-Hispanic	2.8	1.3 - 5.9	7.0	3.4 - 13.9	10.9	6.0 - 18.9	5.5	3.7 - 8.1
Hispanic	4.1	2.1 - 7.6	4.0	1.2 - 12.4	0.8	0.1 - 7.3	3.3	1.9 - 5.9
Total [4]	5.9	4.1 - 8.6	3.7	2.4 - 5.9	3.2	2.0 - 5.0	4.4	3.3 - 5.8
Use during 1st trimester								
White, non-Hispanic	4.7	1.8 - 11.8	1.6	0.6 - 4.0	2.2	1.1 - 4.3	2.9	1.5 - 5.2
Black, non-Hispanic	2.4	1.0 - 5.4	5.2	2.1 - 12.3	9.1	4.7 - 16.8	4.4	2.8 - 6.9
Hispanic	1.7	0.6 - 5.0	1.8	0.4 - 7.3	***	*** - ***	1.5	0.5 - 3.9
Total [4]	3.5	1.7 - 7.1	2.1	1.2 - 3.8	2.7	1.7 - 4.1	2.8	1.8 - 4.4
Use during 2nd trimester								
White, non-Hispanic	1.7	0.6 - 4.8	1.7	0.7 - 4.2	1.0	0.4 - 2.4	1.4	0.8 - 2.4
Black, non-Hispanic	1.8	0.7 - 4.6	0.9	0.1 - 6.7	7.5	3.6 - 14.8	2.8	1.6 - 4.8
Hispanic	1.1	0.3 - 4.7	0.9	0.1 - 6.5	***	*** - ***	0.9	0.3 - 3.0
Total [4]	1.5	0.7 - 3.2	1.4	0.6 - 3.1	1.6	0.9 - 2.8	1.5	1.0 - 2.2

Table 4-13a. Estimated percentage of women who used marijuana before and during pregnancy, by specified time periods, race/ethnicity, and age: United States (continued)

Race/ethnicity	Age in years											
	Under 25			25-29			30 and older			Total		
	Estimate	95% C.I.		Estimate	95% C.I.		Estimate	95% C.I.		Estimate	95% C.I.	
	Percentage											
Use during 3rd trimester												
White, non-Hispanic	1.2	0.3	5.0	1.4	0.5	3.8	1.2	0.5	2.6	1.2	0.7	2.2
Black, non-Hispanic	1.6	0.6	4.4	2.8	0.9	8.9	6.2	2.8	13.3	2.9	1.6	5.0
Hispanic	***	***	***	0.9	0.1	6.5	***	***	***	0.4	0.1	1.8
Total [4]	1.1	0.5	2.7	1.5	0.7	3.1	1.6	0.9	2.8	1.4	0.9	2.1
Use during last 3 days [3]												
White, non-Hispanic	1.2	0.3	5.0	1.3	0.4	3.7	0.7	0.2	1.9	1.0	0.6	1.8
Black, non-Hispanic	1.3	0.4	4.0	1.5	0.3	8.1	3.4	1.1	9.6	1.8	0.9	3.6
Hispanic	(no)	(no)	(no)	***	***	***	(no)	(no)	(no)	***	***	***
Total [4]	1.0	0.3	2.7	1.1	0.4	2.7	0.8	0.3	2.0	1.0	0.6	1.5

[1] Lifetime use. Use of hashish is included only in this time category. The other time periods include only marijuana use.

[2] Use 3 months before pregnancy and during pregnancy. May be less than 12 months if early delivery.

[3] During last 3 days before delivery.

[4] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table 4-13b. Estimated number (in thousands) of women who used marijuana before and during pregnancy, by specified time periods, race/ethnicity, and age: United States

Race/ethnicity	Under 25 Estimate	Under 25 95% C.I.	25-29 Estimate	25-29 95% C.I.	30 and older Estimate	30 and older 95% C.I.	Total Estimate	Total 95% C.I.
	Number *(thousands)*							
Ever used marijuana or hashish[1]								
White, non-Hispanic	303.0	245.4 - 365.9	303.0	261.2 - 346.5	459.9	393.1 - 528.7	1066.0	976.3 - 1158.0
Black, non-Hispanic	49.3	33.7 - 70.6	31.0	18.5 - 49.1	45.1	33.3 - 58.8	125.4	97.4 - 159.3
Hispanic	41.6	27.8 - 60.9	20.4	12.2 - 32.9	15.6	5.5 - 38.9	77.6	56.2 - 105.6
Total[4]	402.8	343.0 - 469.1	364.2	309.3 - 423.6	528.5	447.7 - 614.0	1295.6	1175.5 - 1421.8
Use during past 12 months[2]								
White, non-Hispanic	70.4	42.1 - 114.8	22.7	12.5 - 40.9	27.1	13.1 - 55.2	120.2	81.5 - 175.9
Black, non-Hispanic	11.8	5.8 - 23.7	14.3	7.1 - 27.8	14.8	8.2 - 25.8	41.0	28.2 - 59.1
Hispanic	13.8	7.3 - 25.4	6.3	1.9 - 19.5	1.1	0.1 - 10.0	21.2	11.7 - 38.1
Total[4]	97.9	67.9 - 139.9	43.4	28.0 - 66.7	43.1	27.3 - 67.5	184.3	140.0 - 241.8
Use 3 months before pregnancy								
White, non-Hispanic	69.0	41.3 - 112.7	22.7	12.5 - 40.9	27.1	13.1 - 55.2	118.8	80.9 - 173.3
Black, non-Hispanic	10.1	4.7 - 21.6	11.4	5.5 - 22.8	14.8	8.2 - 25.8	36.4	24.4 - 53.7
Hispanic	13.2	6.9 - 24.7	6.3	1.9 - 19.5	1.1	0.1 - 10.0	20.6	11.6 - 36.2
Total[4]	94.3	64.7 - 136.2	40.4	25.7 - 63.2	43.1	27.3 - 67.5	177.8	134.3 - 234.6
Use during 1st trimester								
White, non-Hispanic	39.8	15.1 - 100.1	11.5	4.5 - 28.8	22.9	11.7 - 44.4	74.2	40.1 - 135.8
Black, non-Hispanic	8.6	3.7 - 19.5	8.5	3.4 - 20.2	12.4	6.5 - 22.9	29.5	18.9 - 45.6
Hispanic	5.6	1.9 - 16.1	2.9	0.7 - 11.5	***	*** - ***	9.1	3.4 - 24.2
Total[4]	55.3	26.7 - 112.4	22.8	12.5 - 41.4	35.9	23.1 - 55.7	114.1	73.8 - 175.5
Use during 2nd trimester								
White, non-Hispanic	14.1	4.8 - 40.4	12.4	5.0 - 30.5	10.3	4.3 - 24.3	36.8	22.0 - 61.5
Black, non-Hispanic	6.6	2.5 - 16.9	1.5	0.2 - 11.0	10.2	4.9 - 20.2	18.3	10.4 - 32.0
Hispanic	3.6	0.8 - 15.3	1.4	0.2 - 10.3	***	*** - ***	5.6	1.7 - 18.5
Total[4]	24.3	11.4 - 51.5	15.3	6.8 - 34.0	21.1	11.8 - 37.5	60.7	40.9 - 89.9

Table 4-13b. Estimated number (in thousands) of women who used marijuana before and during pregnancy, by specified time periods, race/ethnicity, and age: United States (continued)

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number *(thousands)*							
Use during 3rd trimester								
White, non-Hispanic	10.5	2.5 - 41.9	10.0	3.6 - 27.3	11.9	5.3 - 26.5	32.4	18.0 - 58.1
Black, non-Hispanic	6.0	2.2 - 16.1	4.6	1.4 - 14.6	8.5	3.8 - 18.1	19.1	10.9 - 33.0
Hispanic	***	*** - ***	1.4	0.2 - 10.3	***	*** - ***	2.4	0.5 - 11.1
Total [4]	18.2	7.6 - 43.3	16.0	7.5 - 33.8	21.0	11.5 - 38.3	55.3	35.8 - 85.0
Use during last 3 days[3]								
White, non-Hispanic	10.5	2.5 - 41.9	9.2	3.1 - 26.6	6.7	2.2 - 20.0	26.4	14.7 - 47.3
Black, non-Hispanic	4.9	1.6 - 14.6	2.4	0.4 - 13.3	4.6	1.5 - 13.1	11.9	5.8 - 23.9
Hispanic	(no)	(no) - (no)	***	*** - ***	(no)	(no) - (no)	***	*** - ***
Total [4]	15.4	5.4 - 43.3	11.9	4.8 - 29.6	11.3	4.7 - 26.8	38.6	24.5 - 60.6

[1] Lifetime use. Use of hashish is included only in this time category. The other time periods include only marijuana use.

[2] Use 3 months before pregnancy and during pregnancy. May be less than 12 months if early delivery.

[3] During last 3 days before delivery.

[4] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

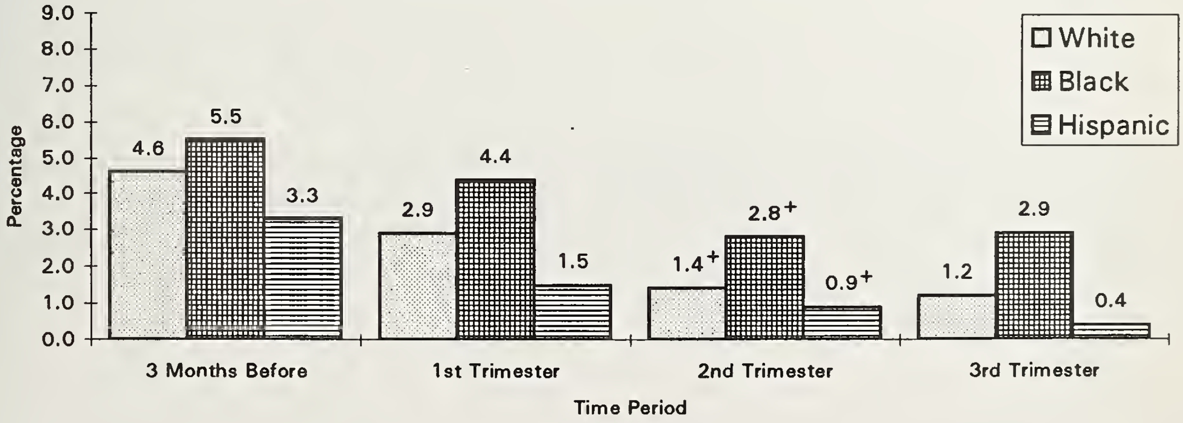
KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

4.4.3.3 Time Trends in Use of Marijuana

The total rate of marijuana use in the 3 months before pregnancy was 4.4 percent. The rates decreased over the course of pregnancy to 2.8 percent in the first trimester, 1.5 percent in the second trimester, and 1.4 percent in the third trimester (see table 4-13). The difference between the rate before pregnancy and the rate for the second trimester (from 4.4 percent to 1.5 percent) was significant ($p < .01$).

Time trends by race/ethnic group observed in table 4-13 are illustrated in figure 4-6. The total rates for each race/ethnic category declined during the first and second trimester, with little further change in the third trimester. The black rate was 5.5 percent before pregnancy, decreasing to 2.8 percent in the second trimester ($p < .01$). Comparing rates for the other two race/ethnic groups, the rate for whites was 4.6 percent before pregnancy, dropping to 1.4 percent in the second trimester ($p < .01$), while Hispanic rates changed from 3.3 percent before pregnancy to 0.9 percent in the second trimester ($p < .05$). Within the four time periods over the past 12 months, only the differences between the black and Hispanic total rates in the first and third trimesters were found to be significant (both $p < .01$).

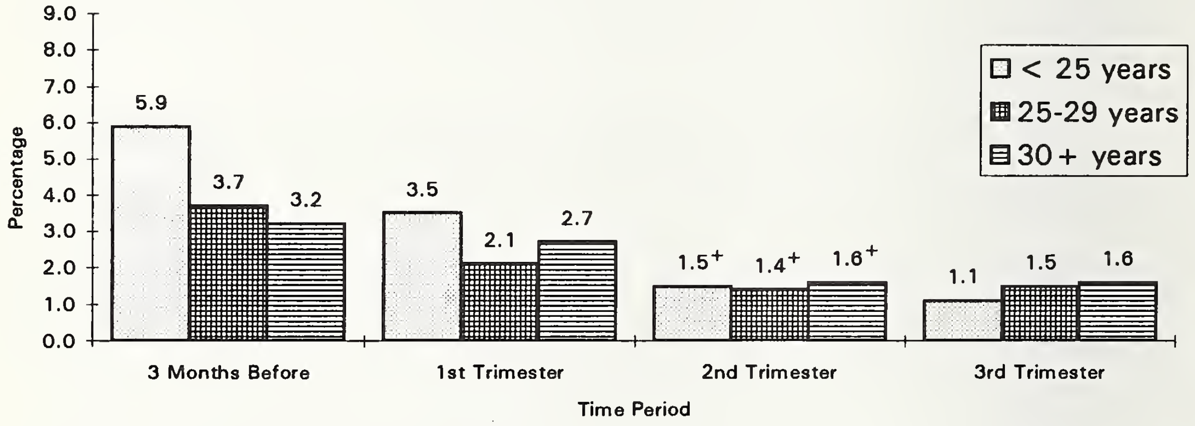
Figure 4-6. Time trends: Marijuana, by race/ethnicity



+ Significant decrease compared with rate 3 months before pregnancy for whites ($p < .01$), blacks ($p < .01$), and Hispanics ($p < .05$).

Trends across time periods for the three age groups showed apparent decreases in the first and second trimesters, with little change in the third trimester (figure 4-7). Women under 25 years had the highest rate before pregnancy of 5.9 percent; the rate in the second trimester for this age group decreased to 1.5 percent ($p < .01$). Among women 25-29 years, the rate changed from 3.7 percent before pregnancy to 1.4 percent in the second trimester ($p < .01$). In women age 30 and older, the rate declined from 3.2 percent before pregnancy to 1.6 percent in the second trimester ($p < .05$). The differences between total rates by age group were small within the four time periods.

Figure 4-7. Time trends: Marijuana, by age group



$^+$Significant decrease compared with rate 3 months before pregnancy for age <25 ($p < .01$), age 25-29 ($p < .01$), and age 30+ ($p < .05$).

4.4.3.4 Use of Marijuana During the Last 3 Days before Delivery

As shown in table 4-13, there was a very low total rate of use of marijuana during the last 3 days before delivery (1.0 percent). Differences between rates for the race/ethnic groups were small for women under 25 years and 25-29 years. The greatest contrast (but not significant) was found in those 30 years and older: blacks, 3.4 percent, and whites, 0.7 percent, with no reported use by Hispanics.

4.4.4 Trends in Use of Cocaine (All Forms)

4.4.4.1 Ever Used Cocaine

Information on use of cocaine (all forms) at any time in the past (i.e., lifetime use) is included in table 4-14. For lifetime use, whites (14.1 percent) had a significantly higher total rate compared with blacks (8.6 percent) ($p < .05$) and Hispanics (4.4 percent) ($p < .01$). Total rates increased with age, from 5.9 percent in women under 25 years to 13.9 percent among women age 25-29 years and to 16.1 percent in women 30 years and older. Rates for both older age groups were significantly greater than the rate for women under 25 years (both $p < .01$). Within age groups, the highest rates observed among women under 25 years and age 25-29 were for whites, but the highest rate observed in women age 30 and older was for blacks.

Table 4-14a. Estimated percentage of women who used cocaine (all forms) before and during pregnancy, by specified time periods, race/ethnicity, and age: United States

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Ever used [1]								
White, non-Hispanic	8.3	5.7 - 11.8	16.8	13.1 - 21.2	17.0	13.9 - 20.6	14.1	11.6 - 16.9
Black, non-Hispanic	2.1	0.9 - 5.0	12.2	6.7 - 21.2	21.8	14.6 - 31.2	8.6	6.2 - 11.9
Hispanic	4.0	2.1 - 7.5	4.4	1.6 - 11.6	5.2	1.4 - 17.7	4.4	2.4 - 7.8
Total [4]	5.9	4.1 - 8.3	13.9	10.7 - 18.0	16.1	13.3 - 19.4	11.5	9.7 - 13.5
Use during past 12 months [2]								
White, non-Hispanic	0.6	0.2 - 2.1	0.5	0.1 - 2.6	0.4	0.1 - 1.6	0.5	0.2 - 1.6
Black, non-Hispanic	0.7	0.1 - 3.6	9.5	5.1 - 16.9	14.1	7.9 - 24.1	5.6	3.8 - 8.3
Hispanic	2.1	0.5 - 8.3	0.7	0.1 - 6.7	***	*** - ***	1.4	0.4 - 4.3
Total [4]	0.9	0.4 - 2.2	1.9	1.0 - 3.4	1.9	1.1 - 3.3	1.5	1.1 - 2.1
Use 3 months before pregnancy								
White, non-Hispanic	0.5	0.1 - 2.1	0.5	0.1 - 2.6	0.3	0.1 - 1.4	0.4	0.1 - 1.3
Black, non-Hispanic	0.7	0.1 - 3.6	7.5	3.7 - 14.5	12.8	7.1 - 22.0	4.9	3.2 - 7.4
Hispanic	1.3	0.2 - 8.1	0.7	0.1 - 6.7	(no)	(no) - (no)	0.8	0.2 - 3.7
Total [4]	0.7	0.3 - 1.8	1.6	0.8 - 3.0	1.6	0.9 - 3.0	1.2	0.9 - 1.8
Use during 1st trimester								
White, non-Hispanic	0.1	0.0 - 1.9	0.5	0.1 - 2.6	0.4	0.1 - 1.6	0.4	0.1 - 1.1
Black, non-Hispanic	0.2	0.0 - 3.3	7.8	3.9 - 14.9	8.6	4.4 - 16.4	3.8	2.4 - 6.1
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)
Total [4]	0.1	0.0 - 0.8	1.5	0.8 - 3.0	1.3	0.7 - 2.5	0.9	0.6 - 1.4
Use during 2nd trimester								
White, non-Hispanic	(no)	(no) - (no)	0.4	0.0 - 3.1	0.2	0.0 - 1.6	0.2	0.0 - 0.8
Black, non-Hispanic	0.2	0.0 - 3.3	6.5	3.0 - 13.3	5.3	2.2 - 12.1	2.8	1.6 - 4.9
Hispanic	0.8	0.1 - 7.3	(no)	(no) - (no)	***	*** - ***	0.5	0.1 - 3.4
Total [4]	0.2	0.0 - 1.3	1.2	0.6 - 2.5	0.8	0.4 - 1.9	0.7	0.4 - 1.2

Table 4-14a. Estimated percentage of women who used cocaine (all forms) before and during pregnancy, by specified time periods, race/ethnicity, and age: United States (continued)

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Use during 3rd trimester								
White, non-Hispanic	(no)	(no) - (no)	0.4	0.0 - 3.1	0.3	0.1 - 1.4	0.2	0.1 - 0.8
Black, non-Hispanic	0.7	0.1 - 3.6	6.5	3.0 - 13.3	7.3	3.5 - 14.6	3.5	2.1 - 5.7
Hispanic	(no)	(no) - (no)	0.7	0.1 - 6.7	***	*** - ***	0.3	0.0 - 1.7
Total [4]	0.2	0.0 - 0.8	1.3	0.7 - 2.6	1.0	0.5 - 2.1	0.8	0.5 - 1.2
Use during last 3 days [3]								
White, non-Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)
Black, non-Hispanic	(no)	(no) - (no)	1.9	0.5 - 7.5	2.2	0.6 - 8.2	0.9	0.3 - 2.5
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)
Total [4]	(no)	(no) - (no)	0.3	0.1 - 1.3	0.2	0.0 - 1.0	0.2	0.1 - 0.4

[1] Lifetime use

[2] Use 3 months before pregnancy and during pregnancy. May be less than 12 months if early delivery.

[3] During last 3 days before delivery.

[4] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

Table 4-14b. Estimated number (in thousands) of women who used cocaine (all forms) before and during pregnancy, by specified time periods, race/ethnicity, and age: United States

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number (*thousands*)							
Ever used [1]								
White, non-Hispanic	69.8	48.0 - 100.2	121.5	95.2 - 153.4	174.1	142.2 - 211.4	365.4	302.1 - 439.5
Black, non-Hispanic	7.6	3.1 - 18.2	20.1	11.1 - 34.8	29.7	19.9 - 42.6	57.4	41.2 - 79.2
Hispanic	13.0	6.8 - 24.4	7.0	2.5 - 18.2	7.1	1.9 - 24.3	27.0	14.9 - 48.1
Total [4]	93.6	65.9 - 132.0	150.3	115.1 - 194.2	217.3	179.2 - 261.7	461.2	390.9 - 542.4
Use during past 12 months [2]								
White, non-Hispanic	5.3	1.5 - 17.8	3.7	0.7 - 18.7	4.4	1.2 - 16.4	13.4	4.2 - 41.9
Black, non-Hispanic	2.6	0.5 - 12.9	15.5	8.4 - 27.8	19.3	10.7 - 32.9	37.4	25.2 - 54.9
Hispanic	6.9	1.7 - 27.0	1.1	0.1 - 10.5	***	*** - ***	8.6	2.7 - 26.6
Total [4]	14.8	6.2 - 34.8	20.3	11.3 - 36.2	25.7	14.8 - 44.5	60.8	42.7 - 86.5
Use 3 months before pregnancy								
White, non-Hispanic	4.2	1.0 - 17.7	3.7	0.7 - 18.7	2.9	0.6 - 14.8	10.8	3.5 - 33.8
Black, non-Hispanic	2.6	0.5 - 12.9	12.3	6.1 - 23.8	17.4	9.6 - 30.0	32.3	21.1 - 49.0
Hispanic	4.2	0.6 - 26.1	1.1	0.1 - 10.5	(no)	(no) - (no)	5.2	1.2 - 22.6
Total [4]	10.9	4.1 - 29.2	17.1	9.1 - 32.0	21.9	11.8 - 40.3	49.9	34.4 - 72.3
Use during 1st trimester								
White, non-Hispanic	1.1	0.1 - 16.0	3.7	0.7 - 18.7	4.4	1.2 - 16.4	9.2	3.0 - 27.9
Black, non-Hispanic	0.9	0.1 - 12.0	12.8	6.4 - 24.4	11.8	5.9 - 22.3	25.4	15.7 - 40.7
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)
Total [4]	1.9	0.3 - 12.6	16.5	8.4 - 32.4	17.6	9.3 - 33.2	36.1	23.3 - 55.9
Use during 2nd trimester								
White, non-Hispanic	(no)	(no) - (no)	2.6	0.3 - 22.1	2.2	0.3 - 16.3	4.7	1.5 - 21.0
Black, non-Hispanic	0.9	0.1 - 12.0	10.6	5.0 - 21.7	7.2	3.0 - 16.4	18.7	10.6 - 32.5
Hispanic	2.7	0.3 - 23.6	(no)	(no) - (no)	***	*** - ***	3.3	0.5 - 20.9
Total [4]	3.6	0.6 - 20.3	13.2	6.3 - 27.4	11.4	5.2 - 25.1	28.2	16.8 - 47.3

Table 4-14b. Estimated number (in thousands) of women who used cocaine (all forms) before and during pregnancy, by specified time periods, race/ethnicity, and age: United States (continued)

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number (*thousands*)							
Use during 3rd trimester								
White, non-Hispanic	(no)	(no) - (no)	2.6	0.3 - 22.1	2.9	0.6 - 14.8	5.5	1.5 - 20.2
Black, non-Hispanic	2.6	0.5 - 12.9	10.6	5.0 - 21.7	9.9	4.8 - 19.8	23.1	14.0 - 37.9
Hispanic	(no)	(no) - (no)	1.1	0.1 - 10.5	***	*** - ***	1.7	0.3 - 10.4
Total [4]	2.6	0.5 - 13.1	14.2	7.1 - 28.4	13.5	6.5 - 27.8	30.3	18.8 - 48.8
Use during last 3 days [3]								
White, non-Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)
Black, non-Hispanic	(no)	(no) - (no)	3.1	0.8 - 12.3	3.0	0.8 - 11.1	6.1	2.3 - 16.3
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)
Total [4]	(no)	(no) - (no)	3.1	0.7 - 13.7	3.0	0.6 - 14.0	6.1	2.1 - 17.8

[1] Lifetime use.

[2] Use 3 months before pregnancy and during pregnancy. May be less than 12 months if early delivery.

[3] During last 3 days before delivery.

[4] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

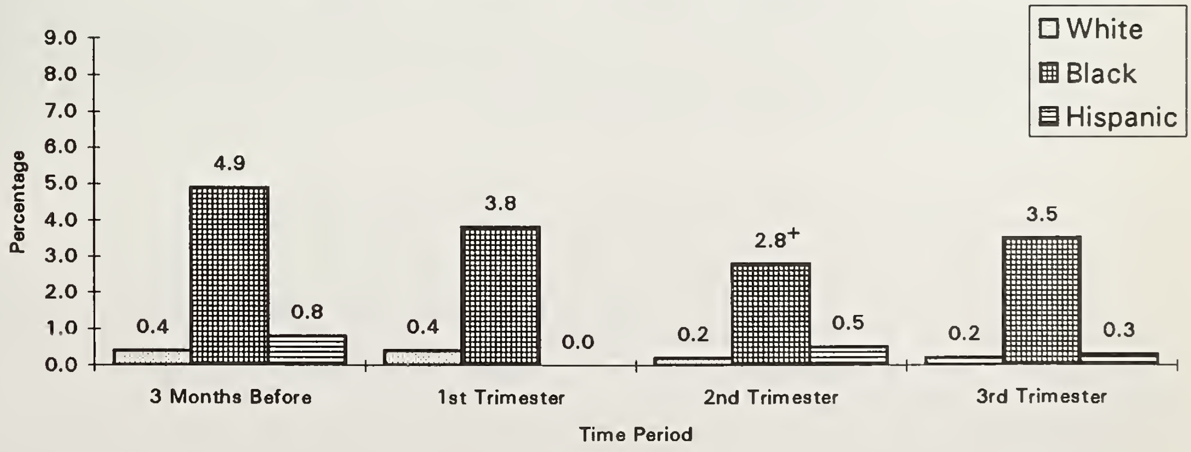
4.4.4.2 Use of Cocaine During the Past 12 Months

For cocaine use over the past year, blacks had the highest total rate of 5.6 percent, while the rate for whites was 0.5 percent, and the rate for Hispanics was 1.4 percent. The difference between black and white rates was statistically significant, ($p < .01$). There were only small differences between total rates by age. Within age groups the patterns varied. Among women under 25 years, Hispanics (2.1 percent) had a higher rate than whites (0.6 percent) and blacks (0.7 percent). In the older age groups, blacks appeared to have higher rates than the other race/ethnic groups. For example, at age 30 and older, the black rate was 14.1 percent as compared to the rate among whites of 0.4 percent (statistical significance not tested).

4.4.4.3 Time Trends in Use of Cocaine (All Forms)

The total rate of cocaine use for all women was 1.2 percent in the 3 months before pregnancy; thus, the decline in rates across time periods in absolute terms was small although significant. The total rate dropped to 0.7 percent in the second trimester ($p < .01$). Trends across time periods also reflected relatively small observed changes for each race/ethnic group, as illustrated in figure 4-8. Across time periods, black rates decreased from 4.9 percent before pregnancy to 2.8 percent in the second trimester ($p < .01$). Rates for both whites and Hispanics were less than 1 percent before pregnancy, and the decrease in these rates by the second trimester was 0.3 percent or less. The total black rates were significantly higher than white rates within all four time periods (all $p < .01$).

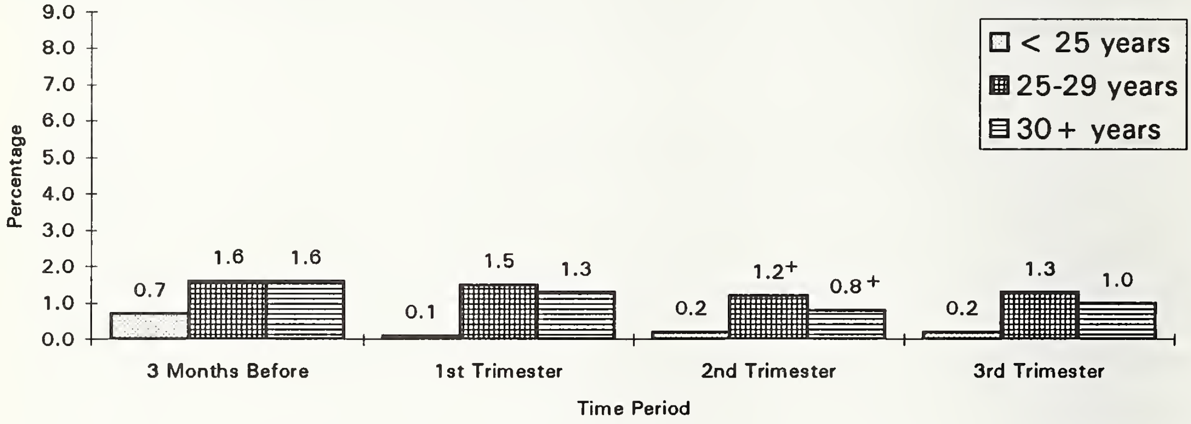
Figure 4-8. Time trends: Cocaine, by race/ethnicity



+ Significant decrease compared with rate 3 months before pregnancy for blacks ($p < .01$).

Trends in cocaine use across time periods by age groups from table 4-14 are pictured in figure 4-9. Absolute changes between the rates just before pregnancy and the rates in the second trimester were very small in all age groups. However, the decreases in rates for women age 25-29 ($p < .05$) and age 30 and older ($p < .05$) were significant.

Figure 4-9. Time trends: Cocaine, by age group



+ Significant decrease compared with rate 3 months before pregnancy for age 25-29 ($p < .05$) and age 30+ ($p < .05$).

Within time periods, observed overall rates of cocaine use by age group were consistently lowest in women under 25 years (figure 4-9). Few differences between rates for the age groups within time periods were significant. In the first trimester, the rate for the youngest age group was significantly lower than the rate for women age 25-29 ($p < .05$) and 30 years and older ($p < .01$). The rate for women under 25 years was again significantly lower in the third trimester than the rates for the two older age groups (both $p < .05$).

4.4.4.4 Use of Cocaine (All Forms) in the Last 3 Days Before Delivery

Cocaine use during the last 3 days of pregnancy was reported only by black women (table 4-14). The total rate among blacks was 0.9 percent. No cocaine use was reported by blacks under 25 years. The rate for black women age 25-29 was 1.9 percent, and the rate among those 30 years and older was 2.2 percent.

4.4.5 Trends in Use of Crack Cocaine

In general, over all time periods, rates of crack cocaine use among whites were low, and Hispanics reported little or no use of crack cocaine (table 4-15). Total rates of use for blacks were significantly greater than white rates within all time periods (all $p < .01$) except during the last 3 days before delivery. The difference between black and Hispanic rates achieved significance ($p < .01$) only for use during the past 12 months. In regard to comparisons between age groups, women age 25-29 had significantly higher rates than did women under 25 years (all $p < .01$) in all time periods except the third trimester and the last 3 days. Rates for those age 30 and older were also higher than those of the youngest age group in the first and second trimesters (both $p < .01$). Statistical tests of comparisons of rates between time periods were not made for crack cocaine.

As there was little use of crack cocaine by whites or Hispanics, the following discussion of patterns of crack cocaine use will be limited to comparisons among the rates for blacks that appear of interest, although statistical tests of differences between rates by age were not made. In reviewing use at any time during the past year, the observed rate was low in women under 25 years (0.7 percent), while the rates in the two older age groups were greater—8.2 percent in women 25-29 years and 13.0 percent among women 30 years and older. This pattern of higher rates in the oldest age groups was observed in all time periods.

Across time periods, small decreases from the rate in the period before pregnancy were observed in rates for the total population and in rates for each age group. It is interesting to note that the rates decreased through the second trimester, then appeared to increase in the third trimester. The overall black rate was 4.2 percent in the period before pregnancy, decreasing through the first trimester to 2.7 percent in the second trimester, then increasing to 3.5 percent in the third trimester. Rates in the third trimester were as high or higher than the rates before pregnancy in the two youngest age groups. The upturn in the third trimester was of particular note in the oldest age group; the observed rate was 11.0 percent before pregnancy, dropping to 5.3 percent in the second trimester and then increasing to 7.3 percent in the third trimester. For 3 days before delivery, the crack cocaine rates were very low and virtually identical to those for all forms of cocaine.

4.4.6 Trends in Use of Alcohol

4.4.6.1 Use of Alcohol During the Past 12 Months

The total rates of alcohol use during the past year were 44.4 percent among whites, 23.7 percent in blacks, and 16.2 percent for Hispanics (table 4-16). The rate for whites was significantly greater than the rates for both blacks ($p < .01$) and Hispanics ($p < .01$). Within each age group the order of rates by race/ethnicity was similar. Considering the distribution by age, the total rate was lowest in the youngest age group. There was a small difference between rates in the two older age groups. Overall rates by age were 29.0 percent for women under 25 years, 41.0 percent in those 25-29 years, and 39.5 percent among women 30 years and older. The rate for

Table 4-15a. Estimated percentage of women who used crack cocaine before and during pregnancy, by specified time periods, race/ethnicity, and age: United States

Race/ethnicity	Under 25 Estimate	Under 25 95% C.I.	25-29 Estimate	25-29 95% C.I.	30 and older Estimate	30 and older 95% C.I.	Total Estimate	Total 95% C.I.
	Percentage							
Use during past 12 months [1]								
White, non-Hispanic	(no)	(no) - (no)	0.4	0.0 - 3.1	0.4	0.1 - 1.6	0.3	0.1 - 1.1
Black, non-Hispanic	0.7	0.1 - 3.6	8.2	4.2 - 15.4	13.0	7.1 - 22.7	5.1	3.4 - 7.6
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	***	*** - ***	0.1	0.0 - 2.1
Total [3]	0.2	0.0 - 0.8	1.5	0.8 - 2.8	1.7	0.9 - 3.1	1.0	0.7 - 1.5
Use 3 months before pregnancy								
White, non-Hispanic	(no)	(no) - (no)	0.4	0.0 - 3.1	0.2	0.0 - 1.6	0.2	0.0 - 0.8
Black, non-Hispanic	0.7	0.1 - 3.6	6.2	2.9 - 13.0	11.0	5.6 - 20.4	4.2	2.6 - 6.6
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)
Total [3]	0.2	0.0 - 0.8	1.2	0.6 - 2.5	1.3	0.6 - 2.8	0.8	0.5 - 1.3
Use during 1st trimester								
White, non-Hispanic	(no)	(no) - (no)	0.4	0.0 - 3.1	0.4	0.1 - 1.6	0.2	0.0 - 1.2
Black, non-Hispanic	0.2	0.0 - 3.3	7.0	3.4 - 14.0	7.5	3.6 - 14.8	3.4	2.0 - 5.6
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)
Total [3]	0.1	0.0 - 0.9	1.3	0.7 - 2.6	1.0	0.5 - 2.1	0.7	0.4 - 1.2
Use during 2nd trimester								
White, non-Hispanic	(no)	(no) - (no)	0.4	0.0 - 3.1	0.2	0.0 - 1.6	0.2	0.0 - 0.8
Black, non-Hispanic	0.2	0.0 - 3.3	5.9	2.7 - 12.6	5.3	2.2 - 12.1	2.7	1.5 - 4.7
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	***	*** - ***	0.1	0.0 - 2.1
Total [3]	***	*** - ***	1.1	0.5 - 2.4	0.7	0.3 - 1.7	0.6	0.3 - 1.0
Use during 3rd trimester								
White, non-Hispanic	(no)	(no) - (no)	0.4	0.0 - 3.1	0.3	0.1 - 1.4	0.2	0.1 - 0.8
Black, non-Hispanic	0.7	0.1 - 3.6	6.5	3.0 - 13.3	7.3	3.5 - 14.6	3.5	2.1 - 5.7
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	***	*** - ***	0.1	0.0 - 2.1
Total [3]	0.2	0.0 - 0.8	1.2	0.6 - 2.5	1.0	0.5 - 2.1	0.7	0.4 - 1.2

Table 4-15a. Estimated percentage of women who used crack cocaine before and during pregnancy, by specified time periods, race/ethnicity, and age: United States (continued)

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Use during last 3 days[2]								
White, non-Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)
Black, non-Hispanic	(no)	(no) - (no)	1.9	0.5 - 7.5	2.2	0.6 - 8.2	0.9	0.3 - 2.5
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)
Total [3]	(no)	(no) - (no)	0.3	0.1 - 1.3	0.2	0.0 - 1.0	0.2	0.1 - 0.4

[1] Use 3 months before pregnancy and during pregnancy. May be less than 12 months if early delivery.

[2] During last 3 days before delivery.

[3] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

*** ***-*** Low precision, no estimate reported.

(no) (no)-(no) No reported use, C.I. not computed.

0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table 4-15b. Estimated number (in thousands) of women who used crack cocaine before and during pregnancy, by specified time periods, race/ethnicity, and age: United States

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number (*thousands*)							
Use during past 12 months [1]								
White, non-Hispanic	(no)	(no) - (no)	2.6	0.3 - 22.1	4.4	1.2 - 16.4	7.0	1.7 - 28.4
Black, non-Hispanic	2.6	0.5 - 12.9	13.5	6.9 - 25.2	17.1	9.6 - 30.9	33.7	22.3 - 50.6
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	***	*** - ***	0.6	0.0 - 12.7
Total [3]	2.6	0.5 - 13.1	16.0	8.3 - 30.7	22.7	12.2 - 41.9	41.3	27.4 - 62.1
Use 3 months before pregnancy								
White, non-Hispanic	(no)	(no) - (no)	2.6	0.3 - 22.1	2.2	0.3 - 16.3	4.7	1.1 - 21.0
Black, non-Hispanic	2.6	0.5 - 12.9	10.2	4.7 - 21.3	15.0	7.6 - 27.8	27.8	17.5 - 43.5
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)
Total [3]	2.6	0.5 - 13.1	12.8	6.1 - 26.5	17.1	7.6 - 38.4	32.5	20.5 - 51.5
Use during 1st trimester								
White, non-Hispanic	(no)	(no) - (no)	2.6	0.3 - 22.1	3.6	0.8 - 16.5	6.2	1.3 - 29.9
Black, non-Hispanic	0.9	0.1 - 12.0	11.6	5.6 - 22.9	10.2	4.9 - 20.2	22.6	13.6 - 37.3
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)
Total [3]	0.9	0.1 - 14.4	14.1	7.0 - 28.2	13.8	6.7 - 28.2	28.8	17.6 - 47.0
Use during 2nd trimester								
White, non-Hispanic	(no)	(no) - (no)	2.6	0.3 - 22.1	2.2	0.3 - 16.3	4.7	1.1 - 21.0
Black, non-Hispanic	0.9	0.1 - 12.0	9.7	4.4 - 20.6	7.2	3.0 - 16.4	17.8	10.0 - 31.4
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	***	*** - ***	0.6	0.0 - 12.7
Total [3]	***	*** - ***	12.3	5.8 - 25.8	10.0	4.3 - 23.1	23.1	13.4 - 39.9
Use during 3rd trimester								
White, non-Hispanic	(no)	(no) - (no)	2.6	0.3 - 22.1	2.9	0.6 - 14.8	5.5	1.5 - 20.2
Black, non-Hispanic	2.6	0.5 - 12.9	10.6	5.0 - 22.1	9.9	4.8 - 19.8	23.1	14.0 - 37.9
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	***	*** - ***	0.6	0.0 - 12.7
Total [3]	2.6	0.5 - 13.1	13.2	6.3 - 27.4	13.5	6.5 - 27.8	29.2	18.0 - 47.6

Table 4-15b. Estimated number (in thousands) of women who used crack cocaine before and during pregnancy, by specified time periods, race/ethnicity, and age: United States (continued)

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number (*thousands*)							
Use during last 3 days [2]								
White, non-Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)
Black, non-Hispanic	(no)	(no) - (no)	3.1	0.8 - 12.3	3.0	0.8 - 11.1	6.1	2.3 - 16.3
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)	(no)	(no) - (no)
Total [3]	(no)	(no) - (no)	3.1	0.7 - 13.7	3.0	0.6 - 14.0	6.1	2.1 - 17.8

---

[1] Use 3 months before pregnancy and during pregnancy. May be less than 12 months if early delivery.

[2] During last 3 days before delivery.

[3] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table 4-16a. Estimated percentage of women who used alcohol before and during pregnancy, by specified time periods, race/ethnicity, and age: United States

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Use during past 12 months [1]								
White, non-Hispanic	39.5	34.9 - 44.4	49.8	40.4 - 59.1	44.5	38.4 - 50.8	44.4	39.2 - 49.6
Black, non-Hispanic	19.1	12.6 - 28.0	28.4	18.4 - 41.0	30.4	22.0 - 40.3	23.7	17.9 - 30.6
Hispanic	12.9	9.0 - 18.1	18.7	11.6 - 28.8	21.3	11.3 - 36.6	16.2	13.0 - 20.1
Total [3]	29.0	25.7 - 32.6	41.0	34.0 - 48.5	39.5	34.1 - 45.2	35.8	31.9 - 39.8
Use 3 months before pregnancy								
White, non-Hispanic	38.5	34.0 - 43.4	48.0	39.0 - 57.1	42.9	37.1 - 48.8	42.9	37.9 - 48.1
Black, non-Hispanic	16.9	10.9 - 25.3	27.0	16.0 - 41.9	28.0	19.9 - 37.8	21.7	16.1 - 28.5
Hispanic	11.5	7.9 - 16.4	15.5	9.7 - 23.8	19.5	10.2 - 33.9	14.3	11.3 - 18.0
Total [3]	27.7	24.2 - 31.4	39.1	32.3 - 46.4	37.8	32.6 - 43.3	34.2	30.4 - 38.2
Use during 1st trimester								
White, non-Hispanic	13.1	10.2 - 16.8	21.1	16.4 - 26.8	21.5	17.3 - 26.3	18.7	15.7 - 22.0
Black, non-Hispanic	8.9	4.5 - 16.8	20.8	13.7 - 30.3	17.8	11.3 - 26.8	13.6	9.8 - 18.6
Hispanic	5.7	2.3 - 13.6	9.4	4.8 - 17.7	10.5	4.4 - 22.9	7.7	4.8 - 12.3
Total [3]	10.6	8.1 - 13.9	18.7	15.3 - 22.7	19.3	15.9 - 23.2	15.7	13.6 - 18.1
Use during 2nd trimester								
White, non-Hispanic	5.8	3.7 - 8.9	10.9	7.4 - 15.9	12.2	9.7 - 15.4	9.8	7.9 - 12.1
Black, non-Hispanic	7.0	4.1 - 11.8	12.0	7.0 - 19.9	15.3	9.4 - 24.0	9.9	7.4 - 13.2
Hispanic	2.8	1.1 - 7.3	7.8	4.0 - 14.8	2.5	0.5 - 12.1	4.0	2.3 - 6.8
Total [3]	5.6	4.0 - 7.7	10.3	7.6 - 13.8	11.2	9.1 - 13.7	8.7	7.3 - 10.4
Use during 3rd trimester								
White, non-Hispanic	5.4	3.6 - 8.0	12.0	7.9 - 17.7	14.2	10.8 - 18.5	10.7	8.4 - 13.6
Black, non-Hispanic	4.1	1.8 - 9.3	14.1	8.4 - 22.6	12.7	6.3 - 23.7	8.3	5.7 - 12.0
Hispanic	3.1	1.5 - 6.6	2.3	0.7 - 7.9	5.3	1.7 - 15.3	3.4	1.9 - 6.2
Total [3]	4.5	3.1 - 6.6	10.5	7.4 - 14.7	12.7	9.9 - 16.1	8.9	7.1 - 11.1

Table 4-16a. Estimated percentage of women who used alcohol before and during pregnancy, by specified time periods, race/ethnicity, and age: United States (continued)

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Use during last 3 days [2]								
White, non-Hispanic	2.5	1.3 - 4.5	1.9	0.8 - 4.5	4.3	2.8 - 6.4	3.0	2.2 - 4.1
Black, non-Hispanic	1.0	0.3 - 3.6	5.0	1.5 - 15.3	7.1	2.6 - 17.8	3.2	1.6 - 6.5
Hispanic	0.4	0.0 - 3.1	(no)	(no) - (no)	***	*** - ***	0.5	0.1 - 1.9
Total [3]	1.7	1.0 - 2.8	2.0	1.1 - 3.7	4.2	2.9 - 5.9	2.6	2.0 - 3.4

[1] Use 3 months before pregnancy and during pregnancy. May be less than 12 months if early delivery.

[2] During last 3 days before delivery.

[3] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

Table 4-16b. Estimated number (in thousands) of women who used alcohol before and during pregnancy, by specified time periods, race/ethnicity, and age: United States

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number (*thousands*)							
Use during past 12 months [1]								
White, non-Hispanic	334.5	295.4 - 375.3	360.7	293 - 428.6	456.6	393.9 - 521.1	1151.9	1019.2 - 1287.7
Black, non-Hispanic	69.6	45.8 - 101.9	46.5	30.2 - 67.3	41.4	30.0 - 55.0	157.6	119.2 - 203.7
Hispanic	41.8	29.1 - 58.8	29.4	18.2 - 45.3	29.2	15.5 - 50.1	100.4	80.4 - 124.2
Total [3]	462.1	409.2 - 519.0	443.0	366.7 - 523.6	533.6	460.1 - 610.7	1438.8	1282.2 - 1603.2
Use 3 months before pregnancy								
White, non-Hispanic	326.2	287.3 - 366.9	347.6	282.6 - 413.6	440.2	381.3 - 501.2	1114.1	983.8 - 1248.3
Black, non-Hispanic	61.6	39.6 - 92.3	44.3	26.2 - 68.6	38.1	27.1 - 51.5	144.0	107.0 - 189.5
Hispanic	37.2	25.7 - 53.1	24.4	15.3 - 37.5	26.6	14.0 - 46.5	88.3	69.5 - 111.1
Total [3]	441.3	386.2 - 500.9	422.7	348.8 - 501.4	56.6	440.2 - 584.6	1374.3	1221.4 - 1535.8
Use during 1st trimester								
White, non-Hispanic	111.2	85.9 - 142.6	153.2	119.0 - 194.0	220.2	177.3 - 270.2	484.6	407.8 - 572.0
Black, non-Hispanic	32.3	16.3 - 61.2	34.0	22.4 - 49.6	24.2	15.4 - 36.5	90.5	65.3 - 123.5
Hispanic	18.6	7.4 - 44.1	14.9	7.6 - 27.9	14.4	6.1 - 31.4	47.8	29.5 - 76.0
Total [3]	169.3	128.4 - 221.3	202.1	165.1 - 245.1	260.3	214.8 - 312.8	631.6	545.5 - 728.6
Use during 2nd trimester								
White, non-Hispanic	49.3	31.7 - 75.7	79.2	53.6 - 114.9	125.5	99.1 - 157.8	253.9	204.2 - 314.1
Black, non-Hispanic	25.5	14.8 - 43.0	19.7	11.4 - 32.7	20.8	12.8 - 32.7	66.1	49.4 - 87.5
Hispanic	9.1	3.5 - 23.5	12.3	6.3 - 23.3	3.4	0.6 - 16.6	24.8	14.4 - 42.2
Total [3]	88.4	63.1 - 123.2	111.2	82.3 - 148.7	151.2	122.8 - 185.2	350.8	294.1 - 417.3
Use during 3rd trimester								
White, non-Hispanic	45.6	30.2 - 68.1	86.7	57.5 - 127.9	146.0	110.7 - 190.3	278.3	217.6 - 353.4
Black, non-Hispanic	15.0	6.4 - 33.7	23.0	13.7 - 37.1	17.2	8.6 - 32.3	55.2	37.9 - 79.6
Hispanic	10.1	4.7 - 21.3	3.7	1.0 - 12.4	7.3	2.4 - 20.9	21.1	11.6 - 38.1
Total [3]	72.0	49.1 - 104.8	113.5	80.3 - 158.2	171.6	134.1 - 217.7	357.0	285.3 - 444.6

Table 4-16b. Estimated number (in thousands) of women who used alcohol before and during pregnancy, by specified time periods, race/ethnicity, and age: United States (continued)

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number (*thousands*)							
Use during last 3 days [2]								
White, non-Hispanic	20.9	11.3 - 38.2	13.7	5.7 - 32.7	44.0	29.1 - 66.1	78.6	57.7 - 106.8
Black, non-Hispanic	3.5	0.9 - 13.0	8.2	2.5 - 25.0	9.7	3.6 - 24.3	21.4	10.5 - 43.0
Hispanic	1.2	0.2 - 10.1	(no)	(no) - (no)	***	*** - ***	3.1	0.8 - 11.8
Total [3]	26.9	15.9 - 45.3	21.9	11.8 - 40.4	56.6	39.8 - 80.0	105.4	81.7 - 135.8

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[1] Use 3 months before pregnancy and during pregnancy. May be less than 12 months if early delivery.

[2] During last 3 days before delivery

[3] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

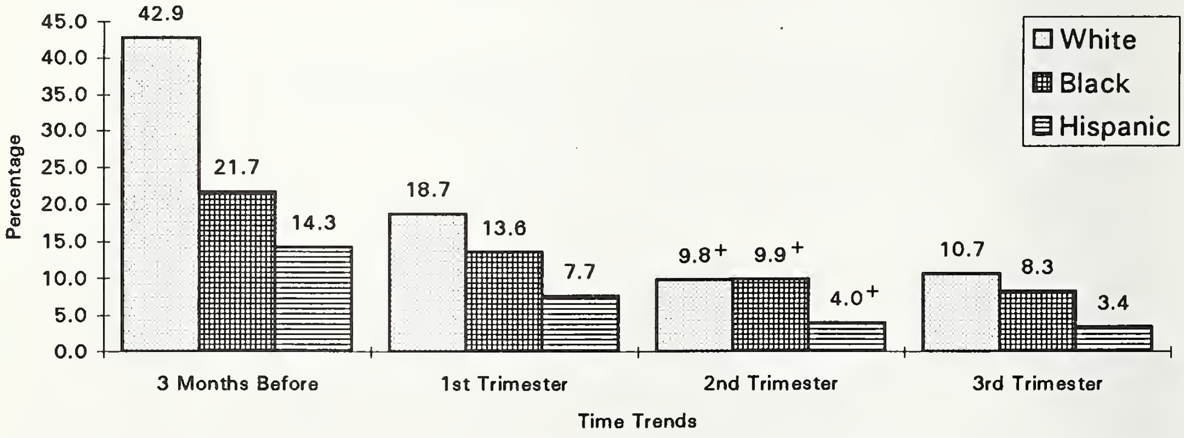
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

women under 25 years was significantly lower than the rates for women 25-29 years ($p < .01$) and 30 years and older ($p < .01$).

4.4.6.2 Time Trends in Use of Alcohol

The observed total rate in the 3 months before pregnancy was 34.2 percent, decreasing sharply to 8.7 percent in the second trimester ($p < .01$). This general trend across time periods also was seen within each race/ethnic group, as illustrated in figure 4-10. The overall white rate decreased from 42.9 percent before pregnancy to 9.8 percent in the second trimester ($p < .01$). The respective change for blacks was from 21.7 percent to 9.9 percent ($p < .01$), and the rate for Hispanics declined from 14.3 percent before pregnancy to 4.0 percent in the second trimester ($p < .01$). As for differences within time periods, in the months before pregnancy the rate for whites was significantly greater than the rates for blacks ($p < .01$) and Hispanics ($p < .01$), and the differences between white and Hispanic rates continued to be significant within each trimester (all $p < .01$). However, as indicated in figure 4-10, differences between white and black rates diminished during pregnancy. Significant differences were found between black and Hispanic rates in the second trimester ($p < .01$) and third trimester ($p < .05$).

Figure 4-10. Time trends: Alcohol, by race/ethnicity



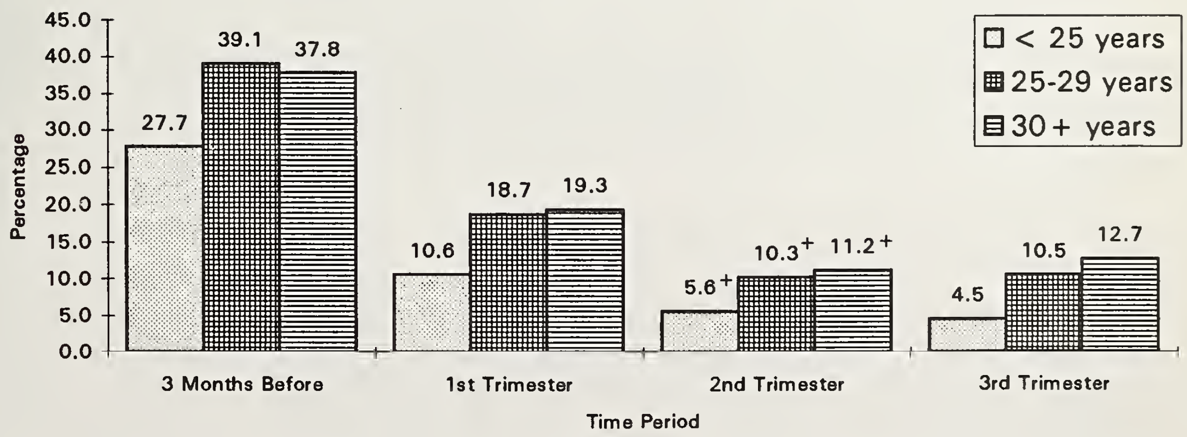
+ Significant decrease compared with rate 3 months before pregnancy for whites ($p < .01$), blacks ($p < .01$), and Hispanics ($p < .01$).

The trends in rates of alcohol use observed in table 4-16 for age groups reflected notable decreases in the first and second trimesters, then a leveling off in the third trimester. These trends may be seen in figure 4-11. Among women under 25 years the rate decreased from 27.7 percent before pregnancy to 5.6 percent by the second trimester ($p < .01$). In those 25-29 years, the rate was 39.1 percent before pregnancy, dropping to 10.3 percent in the second trimester (p<.01). The corresponding change in rates for women 30 years and older was from 37.8 percent to 11.2 percent in the second trimester (p<.01).

As pictured in figure 4-11, rates in the two older age groups were consistently higher than the rates for women under age 25 in all four time periods; all of these differences were significant, although the significance levels varied. Significant differences in the four time periods were as follows:

- Three months before: age 25-29 vs. under age 25 (p<.05), age 30 and older vs. under age 25 (p<.01);
- First trimester: age 25-29 vs. under age 25 (p<.01), age 30 and older vs. under age 25 (p<.01);
- Second trimester: age 25-29 vs. under age 25 years (p<.05), age 30 and older vs. under age 25 (p<.01); and
- Third trimester: age 25-29 vs. under age 25 (p<.01), age 30 and older vs. under age 25 (p<.01).

Figure 4-11. Time trends: Alcohol, by age group



+ Significant decrease compared with rate 3 months before pregnancy for age <25 (p<.01), age 25-29 (p<.01), and age 30+ (p<.01).

4.4.6.3 Use of Alcohol During the Last 3 Days Before Delivery

Within the last 3 days of the pregnancy, rates of alcohol use for whites (3.0 percent) and blacks (3.2 percent) were about the same, while the rate for Hispanics (0.5 percent) was lower (see table 4-16). The difference between white and Hispanic rates was found to be statistically significant ($p < .01$). The observed difference between white and black rates was the greatest among women age 30 and older (whites, 4.3 percent and blacks, 7.1 percent). Overall rates for the two youngest age groups were about the same: 1.7 percent for women under 25 years and 2.0 percent for those 25-29 years, while the rate for women age 30 and older (4.2 percent) was slightly higher. The difference between the rates for those in the oldest and youngest age groups achieved significance ($p < .05$).

4.4.7 Trends in the Use of Cigarettes

4.4.7.1 Ever Used Cigarettes

Information on use during the woman's lifetime ("Ever used") was also obtained for cigarettes (table 4-17). The highest observed total percentage of women ever using cigarettes was among whites (51.4 percent), with blacks having the next highest percentage (27.7 percent) and Hispanics the lowest percentage (20.8 percent). The white rate for lifetime use was significantly higher than the black ($p < .01$) and Hispanic ($p < .01$) rates.

Comparing overall rates by age, differences between rates were small and nonsignificant. The percentage was 41.1 percent among those under 25 years, 41.3 percent in women age 25-29 years, and 43.6 percent for those 30 years and older. White rates were observed to be consistently the highest among race/ethnic groups at all ages.

4.4.7.2 Use of Cigarettes During the Past 12 Months

Patterns of cigarette use within the past year before delivery were similar to those seen earlier for the period of the total pregnancy. Overall rates were highest for whites (29.1 percent) and blacks (23.2 percent), while rates for Hispanics were notably lower (8.7 percent). White and black rates were significantly higher than the Hispanic rate (both $p < .01$). A small decline in rates with age was observed. The rate for mothers under 25 years was 26.7 percent, dropping to 24.1 percent for those 25-29 years, and to 22.8 percent among mothers age 30 years and older. Hispanic rates were much lower than the white and black rates in all three age groups. The white rate was higher than the black rate (38.2 percent vs. 17.5 percent) in mothers under age 25, about the same for those age 25-29 (27.6 percent vs. 26.2 percent), and lower than the black rate (22.6 percent vs. 35.2 percent) among mothers age 30 and older.

Table 4-17a. Estimated percentage of women who used cigarettes before and during pregnancy, by specified time periods, race/ethnicity, and age: United States

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Ever used [1]								
White, non-Hispanic	59.0	50.7 - 66.7	47.7	42.3 - 53.2	47.9	43.6 - 52.2	51.4	48.2 - 54.7
Black, non-Hispanic	21.4	14.8 - 29.9	31.1	18.5 - 47.2	40.8	30.1 - 52.4	27.7	21.2 - 35.4
Hispanic	18.7	12.4 - 27.1	23.9	15.9 - 34.4	22.3	11.4 - 39.0	20.8	16.7 - 25.6
Total [4]	41.1	37.0 - 45.3	41.3	36.1 - 46.7	43.6	39.5 - 47.9	42.0	39.6 - 44.4
Use during past 12 months[2]								
White, non-Hispanic	38.2	32.3 - 44.5	27.6	23.2 - 32.4	22.6	18.5 - 27.3	29.1	26.7 - 31.6
Black, non-Hispanic	17.5	11.3 - 26.0	26.2	15.7 - 40.3	35.2	25.5 - 46.2	23.2	17.4 - 30.4
Hispanic	6.8	3.5 - 12.6	7.0	3.4 - 13.8	15.2	6.4 - 31.7	8.7	5.9 - 12.7
Total [4]	26.7	23.1 - 30.5	24.1	20.8 - 27.7	22.8	18.6 - 27.5	24.7	22.7 - 26.8
Use 3 months before pregnancy								
White, non-Hispanic	37.6	31.8 - 43.9	27.3	23.0 - 32.0	22.1	18.0 - 26.9	28.6	26.2 - 31.1
Black, non-Hispanic	15.6	11.0 - 21.6	26.2	15.7 - 40.3	35.2	25.5 - 46.2	22.2	17.0 - 28.4
Hispanic	6.6	3.4 - 12.5	7.0	3.4 - 13.8	15.2	6.4 - 31.7	8.6	5.8 - 12.6
Total [4]	25.9	22.6 - 29.5	23.9	20.6 - 27.5	22.4	18.2 - 27.2	24.2	22.3 - 26.1
Use during 1st trimester								
White, non-Hispanic	30.7	24.0 - 38.3	19.6	15.6 - 24.4	20.0	16.0 - 24.6	23.4	20.6 - 26.4
Black, non-Hispanic	12.9	8.7 - 18.8	23.0	13.9 - 35.5	31.0	22.1 - 41.7	19.1	14.4 - 24.9
Hispanic	5.3	2.9 - 9.6	3.9	1.5 - 9.9	8.6	2.6 - 24.7	5.7	3.7 - 8.6
Total [4]	21.2	17.8 - 25.0	17.7	14.8 - 21.0	19.3	15.3 - 24.0	19.6	17.8 - 21.6
Use during 2nd trimester								
White, non-Hispanic	24.8	20.1 - 30.3	16.5	12.9 - 20.9	17.0	13.7 - 20.8	19.4	16.9 - 22.2
Black, non-Hispanic	10.1	6.8 - 14.8	21.9	13.2 - 34.1	26.1	16.9 - 38.0	16.3	12.2 - 21.4
Hispanic	3.3	1.6 - 6.6	2.6	0.8 - 8.3	5.4	1.6 - 16.7	3.6	2.2 - 5.8
Total [4]	16.7	14.1 - 19.8	15.2	12.4 - 18.5	16.2	13.1 - 19.8	16.1	14.4 - 18.0

Table 4-17a. Estimated percentage of women who used cigarettes before and during pregnancy, by specified time periods, race/ethnicity, and age: United States (continued)

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
Use during 3rd trimester								
White, non-Hispanic	23.0	18.0 - 28.8	18.2	14.6 - 22.4	17.1	13.8 - 20.9	19.3	17.1 - 21.7
Black, non-Hispanic	10.9	7.3 - 15.9	22.9	13.8 - 35.6	26.8	17.6 - 38.6	17.1	12.9 - 22.4
Hispanic	2.5	1.1 - 5.6	1.3	0.2 - 6.7	2.9	0.7 - 10.9	2.3	1.2 - 4.2
Total [4]	15.7	13.0 - 18.9	16.3	13.6 - 19.5	16.1	13.1 - 19.6	16.0	14.4 - 17.7
Use during last 3 days[3]								
White, non-Hispanic	21.9	17.2 - 27.5	16.0	12.7 - 20.1	16.4	13.1 - 20.3	18.1	16.0 - 20.3
Black, non-Hispanic	7.7	4.6 - 12.6	20.6	11.8 - 33.5	25.7	16.2 - 38.2	14.6	10.2 - 20.5
Hispanic	2.2	0.9 - 5.2	1.3	0.2 - 6.7	2.9	0.7 - 10.9	2.1	1.1 - 4.0
Total [4]	14.1	11.7 - 16.9	14.5	11.9 - 17.6	15.4	12.4 - 19.1	14.7	13.3 - 16.2

[1] Lifetime use.
[2] Use 3 months before pregnancy and during pregnancy. May be less than 12 months if early delivery.
[3] During last 3 days before delivery.
[4] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table 4-17b. Estimated number (in thousands) of women who used cigarettes before and during pregnancy, by specified time periods, race/ethnicity, and age: United States

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number *(thousands)*							
Ever used [1]								
White, non-Hispanic	499.1	429.4 - 564.8	345.8	306.3 - 385.6	491.4	447.1 - 536.0	1336.2	1251.3 - 1420.8
Black, non-Hispanic	77.9	53.8 - 108.9	50.9	30.3 - 77.4	55.6	41.1 - 71.3	184.3	141.0 - 235.0
Hispanic	60.4	40.1 - 87.9	37.6	24.9 - 54.2	30.5	15.6 - 53.4	128.6	103.3 - 158.1
Total [4]	654.7	589.6 - 721.8	446.0	389.8 - 504.3	589.1	533.0 - 646.4	1689.8	1594.9 - 1786.1
Use during past 12 months[2]								
White, non-Hispanic	323.3	273.1 - 376.5	199.9	168.4 - 234.8	232.2	190.2 - 280.3	755.3	692.7 - 821.1
Black, non-Hispanic	63.6	41.2 - 94.7	42.9	25.7 - 66.1	47.9	34.7 - 62.9	154.4	115.4 - 201.9
Hispanic	21.9	11.4 - 40.8	11.0	5.4 - 21.7	20.8	8.8 - 43.5	53.7	36.2 - 78.4
Total [4]	424.9	368.5 - 486.6	260.0	224.8 - 298.7	307.2	250.9 - 371.9	992.1	911.9 - 1076.9
Use 3 months before pregnancy								
White, non-Hispanic	318.4	269.0 - 371.1	197.8	167.0 - 231.9	227.0	184.7 - 275.8	743.3	681.1 - 808.8
Black, non-Hispanic	56.8	40.0 - 78.8	42.9	25.7 - 66.1	47.9	34.7 - 62.9	147.6	113.3 - 188.8
Hispanic	21.3	10.8 - 40.6	11.0	5.4 - 21.7	20.8	8.8 - 43.5	53.1	35.8 - 77.6
Total [4]	412.7	359.9 - 470.3	257.9	222.9 - 296.5	302.1	245.8 - 367.0	972.7	897.5 - 1052.1
Use during 1st trimester								
White, non-Hispanic	259.7	203.3 - 323.9	142.3	113.3 - 176.5	205.0	164.4 - 252.6	607.0	535.8 - 684.4
Black, non-Hispanic	47.1	31.6 - 68.6	37.7	22.8 - 58.2	42.3	30.1 - 56.8	127.0	95.8 - 165.5
Hispanic	17.3	9.4 - 31.1	6.1	2.3 - 15.6	11.7	3.6 - 33.8	35.1	23.0 - 53.1
Total [4]	337.0	283.6 - 397.5	191.2	160.3 - 226.7	260.5	207.2 - 323.6	788.7	714.7 - 868.4
Use during 2nd trimester								
White, non-Hispanic	210.2	169.7 - 256.8	119.3	93.1 - 151.2	174.1	140.6 - 213.6	503.7	438.3 - 576.2
Black, non-Hispanic	36.9	24.9 - 53.8	35.9	21.7 - 55.9	35.5	23.0 - 51.8	108.4	81.3 - 142.3
Hispanic	10.5	5.1 - 21.3	4.1	1.3 - 13.0	7.3	2.2 - 22.9	22.0	13.3 - 36.0
Total [4]	266.8	224.5 - 315.1	164.6	134.4 - 200.0	218.4	177.4 - 266.7	649.7	580.1 - 726.0

Table 4-17b. Estimated number (in thousands) of women who used cigarettes before and during pregnancy, by specified time periods, race/ethnicity, and age: United States (continued)

Race/ethnicity	Age in years							
	Under 25		25-29		30 and older		Total	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number *(thousands)*							
Use during 3rd trimester								
White, non-Hispanic	194.2	152.1 - 243.9	131.8	105.9 - 162.3	175.0	141.5 - 214.6	501.0	443.1 - 564.6
Black, non-Hispanic	39.6	26.7 - 57.8	37.5	22.6 - 58.3	36.5	24.0 - 52.6	113.7	85.6 - 148.6
Hispanic	8.0	3.5 - 18.0	2.1	0.4 - 10.6	4.0	1.0 - 14.9	14.0	7.5 - 26.1
Total[4]	250.8	207.7 - 300.9	176.5	146.8 - 210.9	217.0	176.8 - 264.3	644.4	580.2 - 714.1
Use during last 3 days[3]								
White, non-Hispanic	185.4	145.2 - 232.9	116.2	91.8 - 145.5	168.1	134.3 - 208.4	469.6	416.0 - 528.5
Black, non-Hispanic	28.2	16.9 - 46.0	33.7	19.3 - 54.8	35.0	22.1 - 52.0	96.9	67.5 - 136.2
Hispanic	7.1	2.9 - 16.9	2.1	0.4 - 10.6	4.0	1.0 - 14.9	13.1	6.8 - 25.0
Total[4]	225.2	186.9 - 269.7	157.1	129.0 - 190.1	208.6	167.5 - 257.5	590.8	533.9 - 652.7

[1] Lifetime use.

[2] Use 3 months before pregnancy and during pregnancy. May be less than 12 months if early delivery.

[3] During last 3 days before delivery.

[4] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

*** ***-*** Low precision, no estimate reported.

(no) (no)-(no) No reported use, C.I. not computed.

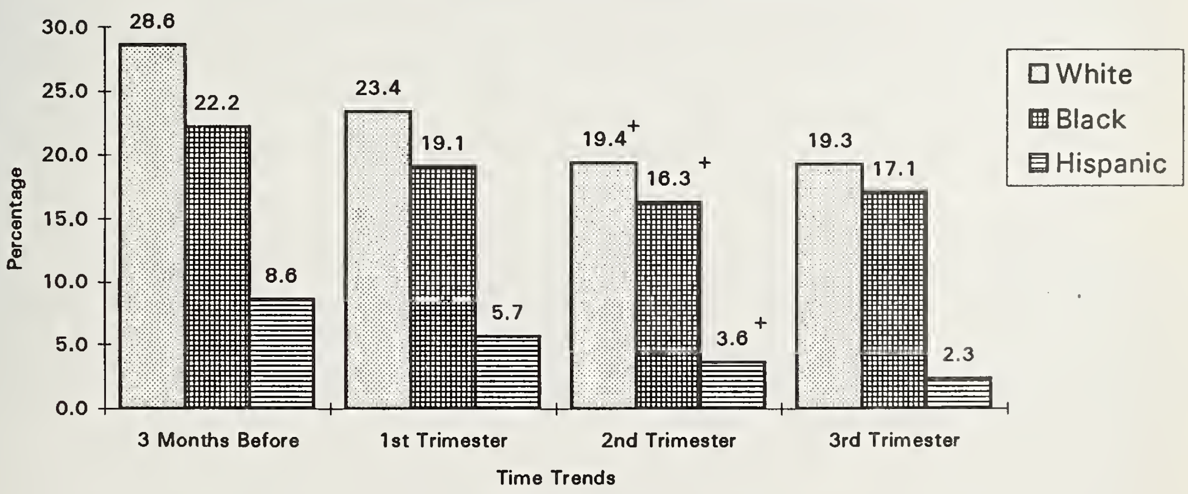
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

4.4.7.3 Time Trends in Use of Cigarettes

The observed total rate of cigarette use in table 4-17 was 24.2 percent in the 3 months before pregnancy, dropping to 16.1 percent in the second trimester ($p<.01$), and leveling off in the last trimester.

Generally, similar trends across the four time periods were observed within each race/ethnic group, as illustrated in figure 4-12. The white rate dropped from 28.6 percent before pregnancy to 19.4 percent in the second trimester ($p<.01$), while the black rate decreased from 22.2 percent to 16.3 percent ($p<.01$), and the Hispanic rate decreased from 8.6 percent to 3.6 percent ($p<.01$). Within all four time periods, rates for whites and blacks were significantly higher than the Hispanic rates (all $p<.01$).

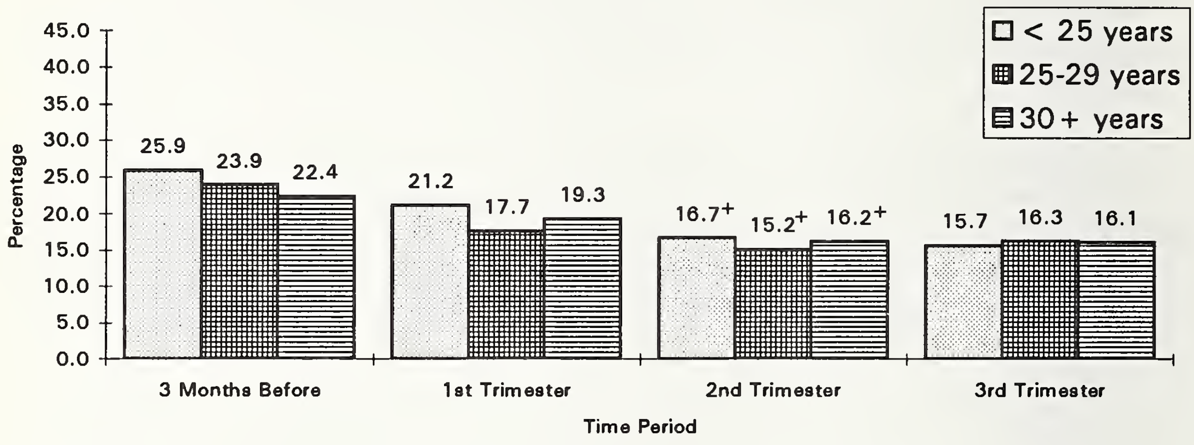
Figure 4-12. Time trends: Cigarettes, by race/ethnicity



+Significant decrease compared with rate 3 months before pregnancy for whites ($p<.01$), blacks ($p<.01$), and Hispanics ($p<.01$).

Across the time periods, the rate of cigarette use in each age group also presented a decrease through the second trimester and then little or no subsequent change in the third trimester (figure 4-13). For women under 25 years, the rate dropped from 25.9 percent before pregnancy to 16.7 percent in the second semester (decrease significant, $p<.01$). The change for women 25-29 years was 23.9 percent before pregnancy to 15.2 percent in the second trimester ($p<.01$). Among those 30 years and older, the rate decreased from 22.4 percent to 16.2 percent ($p<.01$). Differences between age groups within all four time periods were small.

Figure 4-13. Time trends: Cigarettes, by age group



+ Significant decrease compared with rate 3 months before for age <25 (p<.01), age 25-29 (p<.01), and age 30+ (p<.01).

4.4.7.4 Use of Cigarettes in the Last 3 Days Before Delivery

Total rates of cigarette use within the 3 days just before delivery continued to be high for whites (18.1 percent) and blacks (14.6 percent), with much lower reported use among Hispanics (2.1 percent) (table 4-17). Rates for whites and blacks were significantly greater (both p<.01) than the Hispanic rate. There were relatively small observed differences between the total rates by age: 14.1 percent for women under 25 years, 14.5 percent in those age 25-29 years, and 15.4 percent among those 30 years and older.

4.4.8 Continued Use of Alcohol and Cigarettes During Pregnancy

The discussion thus far has considered trends across the four time periods that were based on rates computed independently for the total population in each time period. However, there were sufficient numbers of women reporting use of alcohol or cigarettes in the 3 months before pregnancy to provide estimates for continued use over the course of pregnancy by these same individuals.

Estimates are presented in table 4-18 for the proportion and number who stopped use in the first trimester (i.e., did not report use in later trimesters) and those who continued use into the third trimester. Earlier (table 4-17), it was observed that about 25 percent of the population used cigarettes in the 3 months before pregnancy. Of these, about one-third (30.3 percent) did not use cigarettes after the first trimester, while almost two-thirds (65.2 percent) continued use into the last trimester. Regarding alcohol use, it was estimated that 34.2 percent of all women (from table 4-16) used alcohol in the period before pregnancy. It is observed in table 4-18 that 69.4 percent of these did not use alcohol after the first trimester, while 24.2 percent continued use into the third trimester. In terms of the total population, these results indicate that about 16 percent or some 634,000 women continued to use cigarettes, and about 8 percent or 332,000 women continued to use alcohol, throughout their pregnancies.

4.5 Patterns of Multiple Substance Use

The number of women reporting illicit drug use during pregnancy was sufficient for a limited analysis of illicit drug use in combination with alcohol and cigarettes. Although statistical tests of comparisons were not made for these estimates, the observed data suggested that women who used an illicit drug during pregnancy were more likely to also use cigarettes and alcohol than women who did not use an illicit drug. Conversely, women who used both cigarettes and alcohol were more likely to also use marijuana or cocaine than women who did not smoke or drink during pregnancy.

Table 4-19 examines the number of illicit drugs used in combination with the use of cigarettes, alcohol, or both. The denominators for these estimates are the number of sample women in each row of the table; that is, the number of women who reported no illicit drug use, use of one illicit drug, or use of two or more illicit drugs (see table footnote). The percentages in the rows add to approximately 100 percent, with slight differences due to rounding error. Only 22 women in the sample reported use of more than one type of illicit drug during pregnancy, so that estimates for those who used two drugs were highly variable and were suppressed. No women in the sample reported use of three or more types of illicit drugs during pregnancy. The columns of the table indicate whether individuals in each category of multiple drug use also reported use of cigarettes or alcohol during pregnancy.

Table 4-19 shows that 71.1 percent of the survey population who did not use any illicit drug also used neither alcohol nor cigarettes during pregnancy. Approximately 12 percent of those who reported no use of illicit drugs used cigarettes alone, about 11 percent used alcohol alone, and 6 percent used both cigarettes and alcohol during pregnancy. These estimates contrast sharply with those for mothers who reported use of one type of illicit drug at some time during pregnancy. In the latter group, only 26.4 percent reported use of neither cigarettes nor alcohol during pregnancy, while about 26 percent used cigarettes alone, about 16 percent used alcohol alone, and almost 32 percent used both cigarettes and alcohol. Thus, there were considerably higher rates of alcohol and cigarette use during pregnancy among those who used an illicit drug than among those who did not report illicit drug use.

Table 4-18. Estimated percentage and number (in thousands) of women using cigarettes and alcohol before pregnancy who continued use into pregnancy: United States

Substance used in the 3 months prior to pregnancy[1]	Percentage				Number *(thousands)*			
	Women who stopped use in the 1st trimester		Women who continued use into the 3rd trimester		Women who stopped use in the 1st trimester		Women who continued use into the 3rd trimester	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
Cigarettes	30.3	25.5 - 35.5	65.2	60.8 - 69.4	294.3	247.8 - 345.3	634.2	591.0 - 675.0
Alcohol	69.4	64.0 - 74.3	24.2	19.2 - 30.0	935.5	879.9 - 1020.6	332.0	263.5 - 411.8

[1] Sample denominators are total number of women reporting use of cigarettes or alcohol in the 3 months prior to pregnancy: cigarettes - 618, alcohol - 866. Percentages do not add to 100 percent as women who stopped use in the 2nd trimester are not included in the table. Population estimates differ slightly from those given earlier for cigarette and alcohol use due to sampling variability.

Table 4-19. Cigarette and alcohol use among women who reported no use of illicit drugs during pregnancy, use of one illicit drug, or use of two illicit drugs, percentage and number (in thousands): United States.

Number of illicit drugs used[1,2]	In combination with cigarettes and alcohol							
	Neither		Cigarettes alone		Alcohol alone		Both cigarettes and alcohol	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage							
None	71.1	68.6 - 73.5	12.0	10.7 - 13.4	10.9	9.0 - 13.2	6.0	5.0 - 7.2
1 Drug	26.4	17.5 - 37.8	25.9	13.4 - 44.1	15.9	9.8 - 24.9	31.7	22.3 - 42.9
2 Drugs	***	*** - ***	***	*** - ***	***	*** - ***	***	*** - ***
	Number *(thousands)*							
None	2704.3	2609.8 - 2794.2	455.5	405.2 - 511.2	415.0	342.7 - 500.3	227.5	188.3 - 274.4
1 Drug	51.1	33.9 - 73.0	50.1	25.9 - 85.3	30.8	18.9 - 48.0	61.2	43.1 - 82.9
2 Drugs	***	*** - ***	***	*** - ***	***	*** - ***	***	*** - ***

[1] Sample denominators are row totals in each illicit drug use category: None - 2,467, 1 drug - 124, 2 drugs - 22.

[2] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

KEY:

*** ***-*** Low precision, no estimate reported.

(no) (no)-(no) No reported use, C.I. not computed.

0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

A different perspective on the same issue is presented in table 4-20. This table considers women who did and did not report use of cigarettes or alcohol at some time during pregnancy, and their rates of marijuana or cocaine use. That is, rates of use for marijuana or cocaine by women in each category of cigarettes and alcohol use are given, and the denominators are the number of sample women in each cell. Among women who reported use of neither cigarettes nor alcohol, the observed rates of illicit drug use are very low: 0.2 percent for marijuana and 0.1 percent for cocaine. In contrast, the rates of illicit drug use among women who reported use of both cigarettes and alcohol during pregnancy are substantially higher; 20.4 percent used marijuana and 9.5 percent used cocaine in some form. Figures 4-14 and 4-15 offer a graphic view of these contrasts.

Table 4-20. Estimated percentage and number (in thousands) of women who used cigarettes and alcohol during pregnancy in combination with marijuana or cocaine: United States

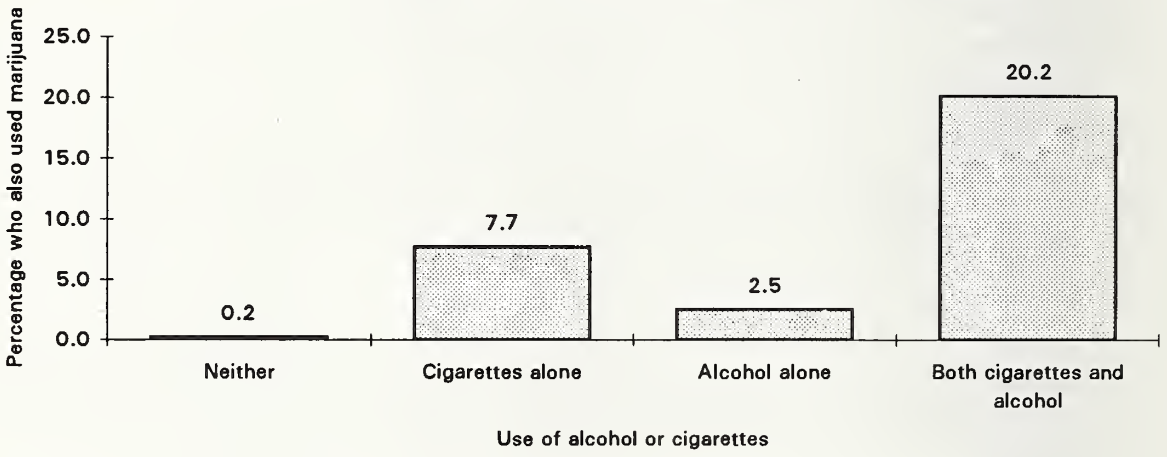
Reported cigarette and alcohol use[1]	In combination with			
	Marijuana		Cocaine (all forms)	
	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage			
Neither	0.2	0.1 - 0.8	0.1	0.0 - 0.6
Cigarettes only	7.5	3.0 - 17.6	1.6	0.5 - 5.1
Alcohol only	2.3	1.0 - 5.3	0.8	0.2 - 3.1
Both	20.4	14.5 - 28.0	9.5	6.0 - 14.8
	Number *(thousands)*			
Neither	6.8	2.1 - 21.8	3.8	0.8 - 17.4
Cigarettes only	38.2	15.1 - 90.0	8.2	2.5 - 26.1
Alcohol only	10.3	4.4 - 23.7	3.6	0.9 - 14.1
Both	63.3	45.0 - 86.7	29.5	18.6 - 45.8

[1] Sample denominators are row totals in each alcohol-cigarettes use category: Neither - 1,795, cigarettes alone - 312, alcohol alone - 296, both cigarettes and alcohol - 210.

KEY:

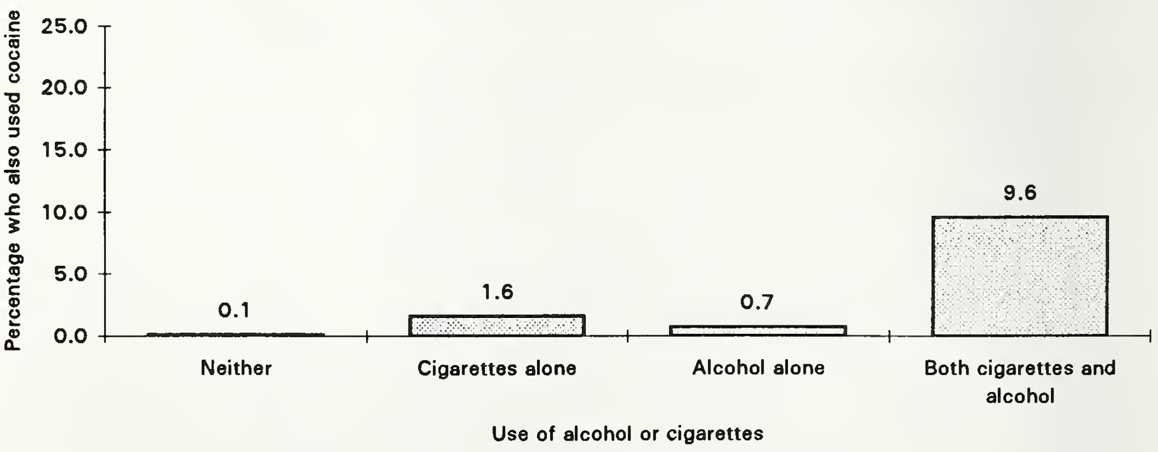
***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No observations, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

Figure 4-14. Use of marijuana, by persons who used alcohol or cigarettes +



+ Comparisons not tested for statistical significance.

Figure 4-15. Use of cocaine, by persons who used alcohol or cigarettes +



+ Comparisons not tested for statistical significance.

4.6 Estimates of Substance Use During Pregnancy, by Other Selected Characteristics

In this section estimates of substance use are presented by categories of three additional variables that may be associated with variation in rates of drug use among population subgroups: household income, number of prenatal visits, and hospital size. Table 4-21 provides estimates of illicit drug use.

Statistical Comparisons

The original categories of household income used in data collection were collapsed to form categories of approximately equal sample size for purposes of comparison. The number of categories was reduced further to permit statistical testing of differences between categories; the categories compared were under $14,851, $14,851-$30,000, and over $30,000. Data on the number of prenatal visits was aggregated into four categories, the lowest (under five visits) reflecting little or no prenatal care and the highest representing more frequent visits than are usually experienced with normal pregnancies. For hypothesis testing, comparisons were made between rates for those women with under five visits and for those women who had five visits or more. Hospital size was measured in terms of the annual number of live births in each survey hospital. Statistical comparisons were made between all four categories of hospital size. *When estimates for aggregate categories used in the statistical comparisons do not appear in the tables, they will be cited in the text.*

4.6.1 Selected Illicit Drugs

Household Income

Observed rates were lower for those women in the higher income categories for any illicit drug use and for marijuana use (table 4-21). A similar trend was seen for cocaine use, but the range of rates across income categories was smaller.

The rate for any illicit drug use was 11.6 percent for women in the lowest household income category (under $8,451), while rates in income categories over $30,000 were less than 3 percent. In statistical tests of differences between rates, women from households with incomes under $14,851 (8.9 percent) and those with incomes from $14,851 to $30,000 (6.3 percent) had significantly higher rates of any illicit drug use (both $p<.05$) than women from households with incomes of more than $30,000 (2.5 percent).

Rates for marijuana use ranged from 7.2 percent in the lowest income category to less than 2 percent in the two highest income categories. The difference between rates for women from households with incomes under $14,851 (5.4 percent) and those with incomes greater than $30,000 (1.4 percent) was significant ($p<.05$).

Table 4-21a. Estimated percentage of women who used any illicit drug, marijuana, or cocaine (all forms) during pregnancy, by income, number of prenatal visits, and hospital size: United States

Demographic characteristic	Any illicit drug use[1] Estimate	Any illicit drug use[1] 95% C.I.	Marijuana Estimate	Marijuana 95% C.I.	Cocaine (all forms) Estimate	Cocaine (all forms) 95% C.I.
Annual household income						
$8,450 or Less	11.6	7.0 - 18.4	7.2	3.7 - 13.6	2.2	1.2 - 4.3
$8,451 - $14,850	5.5	3.4 - 8.7	3.1	1.6 - 5.8	1.7	0.6 - 4.7
$14,851 - $21,300	7.9	4.1 - 14.6	3.3	1.2 - 8.4	1.2	0.3 - 4.6
$21,301 - $30,000	5.1	3.1 - 8.4	2.2	0.9 - 5.0	1.9	0.9 - 4.3
$30,001 - $50,000	2.3	1.3 - 4.0	1.2	0.5 - 2.6	0.2	0.0 - 1.4
Over $50,000	2.9	1.6 - 4.9	1.7	0.7 - 3.8	0.1	0.0 - 1.7
Number of prenatal visits						
Less than 5	18.3	9.3 - 33.1	7.6	3.7 - 15.0	6.8	2.2 - 19.1
5-10	7.0	4.8 - 10.2	4.1	2.0 - 8.5	1.0	0.5 - 2.2
11-16	3.8	2.9 - 5.1	2.3	1.5 - 3.6	0.9	0.5 - 1.6
17 or More	5.4	3.0 - 9.7	1.7	0.6 - 4.4	0.7	0.1 - 3.1
Hospital size (annual births)						
Less than 1,000 births	5.3	3.1 - 8.9	3.5	1.5 - 8.0	0.2	0 - 1.4
1,000 - 1,999 births	4.8	2.4 - 9.4	3.1	1.4 - 6.6	1.0	0.3 - 3.1
2,000 - 2,999 births	4.1	2.6 - 6.4	1.5	0.6 - 3.6	0.6	0.2 - 2.5
3,000 or more births	7.3	4.6 - 11.4	3.7	2.2 - 6.3	2.4	1.3 - 4.4

---

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table 4-21b. Estimated number (in thousands) of women who used any illicit drug, marijuana, or cocaine (all forms) during pregnancy, by income, number of prenatal visits, and hospital size: United States

Demographic characteristic	Number *(thousands)*					
	Any illicit drug use[1]		Marijuana		Cocaine (all forms)	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
Annual household income						
$8,450 or Less	78.9	48.0 - 125.8	49.4	25.4 - 93.0	15.2	7.9 - 29.2
$8,451 - $14,850	29.4	18.3 - 46.6	16.6	8.7 - 31.2	9.0	3.1 - 25.1
$14,851 - $21,300	37.6	19.6 - 69.4	15.5	5.9 - 39.7	5.7	1.4 - 22.0
$21,301 - $30,000	31.6	19.2 - 51.6	13.4	5.8 - 30.6	12.0	5.4 - 26.4
$30,001 - $50,000	21.2	11.9 - 37.3	10.8	4.8 - 24.0	2.2	0.4 - 13.1
Over $50,000	22.3	12.9 - 38.2	12.9	5.6 - 29.3	1.0	0.1 - 13.4
Number of prenatal visits						
Less than 5	29.5	14.9 - 53.2	12.2	5.9 - 24.1	11.0	3.6 - 30.7
5-10	79.9	54.3 - 116.2	46.9	22.2 - 96.6	11.4	5.3 - 24.6
11-16	86.5	65.1 - 114.5	51.9	33.1 - 81.0	19.6	10.7 - 35.7
17 or More	25.0	13.7 - 44.8	7.7	2.9 - 20.2	3.1	0.6 - 14.4
Hospital size (annual births)						
Less than 1,000 births	49.5	28.7 - 83.8	33.1	14.3 - 74.6	1.7	0.2 - 13.0
1,000 - 1,999 births	37.9	19.1 - 73.6	24.1	11.0 - 52.0	7.5	2.3 - 24.0
2,000 - 2,999 births	44.8	28.3 - 70.2	16.5	6.8 - 39.8	6.8	1.7 - 27.8
3,000 or more births	88.8	56.0 - 138.4	44.9	26.2 - 76.3	29.0	15.6 - 53.5

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

KEY:

*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Cocaine use was observed to drop from 2.2 percent for women from households in the lowest income category to 0.2 percent or less among women in households with incomes over $30,000. Rates both for women having household incomes under $14,851 (2.0 percent) and those with household incomes from $14,851 to $30,000 (1.6 percent) were significantly greater (both $p < .05$) than the rate for women living in households with incomes over $30,000 (0.2 percent).

Number of Prenatal Visits

Mothers with fewer than five prenatal visits had the highest observed rates for any illicit drug use, marijuana use, and cocaine use.

The rate for any illicit drug use was 18.3 percent for those with fewer than five visits, while it was 7.0 percent or less in the other three visit categories. The rate for mothers with fewer than five visits (18.3 percent) was significantly higher than the rate for those with five or more visits (5.0 percent) ($p < .05$).

About the same pattern of observed rates was seen for marijuana use, although the differences among rates were not as large. Those mothers with fewer than five visits had a rate of 7.6 percent, compared with 4.1 percent or less among those in the other three visit categories.

The pattern for cocaine use was similar. The rate among women with fewer than five visits was 6.8 percent, while rates for women in the other three visit categories were 1 percent or less.

Hospital Size

The highest observed rate for any illicit drug use (7.3 percent) was associated with hospitals having 3,000 or more births annually, as was the highest rate for marijuana use (3.7 percent) and cocaine use (2.4 percent). The lowest rates for any illicit drug use and marijuana use were found in hospitals with 2,000-2,999 births (4.1 percent and 1.5 percent, respectively), while women in hospitals with under 1,000 births had the lowest rate of cocaine use (0.2 percent). Only the difference in rates of cocaine use for the largest and smallest hospitals was significant ($p < .05$). It is of note that, of the estimated total of 45,000 women who used cocaine during their pregnancy, almost two-thirds (29,000) delivered in large metropolitan hospitals.

4.6.2 Alcohol and Cigarettes

Household Income

Alcohol use rates appeared to increase with increasing household income (table 4-22). The rate of alcohol use in the lowest income category of under $8,451 was 14.4 percent, dropped to the lowest rate of 12.1 percent in the category of $14,851-$21,300, then gradually increased to a level of 28.9 percent for women in households with incomes of over $50,000. The rate for households with income of more that $30,000 (24.3 percent) was significantly higher than the rates in the income categories $14,851-$30,000 (15.2 percent) ($p < .01$) and under $14,851 (14.2 percent) ($p < .01$).

The reverse trend was observed in the rates of cigarette use (table 4-22). Rates generally decreased from 32.3 percent for women in households with income under $8,451 to 12.3 percent for household income over $50,000. The rates for women from households with income of less than $14,851 (29.5 percent) and with household income of $14,851-$30,000 (21.2 percent) both were significantly higher (both $p < .01$) than the rate for women in the income category $30,000 or more (13.4 percent).

Prenatal Visits

The rates for use of alcohol and cigarettes generally declined with the increasing number of prenatal visits. The rate of alcohol use among women with fewer than 5 visits was 23.6 percent, while the rate was 15.6 percent for women with 17 or more visits.

Observed rates for cigarette use generally declined from 39.3 percent among those with fewer than 5 visits to 23.3 percent for women with 17 visits or more. The rate for those with less than five visits was significantly greater ($p < .01$) than the rate for women with five visits or more (19.6 percent).

Hospital Size

No definitive patterns were observed in the rates of alcohol and cigarette use by category of hospital size, and differences among rates were relatively small for both substances. Rates for alcohol use ranged from 15.8 percent in hospitals with fewer than 1,000 births to 23.1 percent in hospitals with 1,000-1,999 births. For cigarette use, the range of rates was from 20.2 percent in hospitals with 1,000-1,999 births to 21.4 percent in hospitals with under 1,000 births.

Table 4-22. Estimated percentage and number (in thousands) of women who used alcohol or cigarettes during pregnancy, by income, number of prenatal visits, and hospital size: United States

Demographic characteristic	Percentage				Number *(thousands)*			
	Alcohol		Cigarettes		Alcohol		Cigarettes	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
Annual household income								
$8,450 Or less	14.4	10.4 - 19.6	32.3	26.7 - 38.3	98.4	71.0 - 134.1	220.2	182.6 - 261.5
$8,451-$14,850	14.0	9.9 - 19.4	26.0	21.4 - 31.2	74.7	53.0 - 103.4	138.7	114.0 - 166.7
$14,851-21,300	12.1	8.5 - 16.9	19.9	15.5 - 25.3	57.4	40.4 - 80.2	94.6	73.5 - 119.8
$21,301-$30,000	17.6	11.5 - 26.0	22.1	16.2 - 29.4	108.9	71.1 - 160.8	136.4	100.0 - 181.3
$30,001-$50,000	20.6	16.4 - 25.6	14.4	11.5 - 17.8	192.4	152.9 - 238.9	134.2	107.3 - 166.5
Over $50,000	28.9	22.8 - 35.8	12.3	9.1 - 16.3	225.2	177.8 - 279.5	95.6	71.0 - 127.3
Number of prenatal visits								
Less than 5	23.6	14.5 - 35.8	39.3	29.4 - 50.2	37.9	23.4 - 57.7	63.3	47.3 - 80.8
5-10	18.0	14.0 - 22.8	21.3	17.2 - 26.2	204.3	158.8 - 259.3	242.4	195.5 - 297.0
11-16	19.5	16.6 - 22.9	17.9	15.9 - 20.2	442.5	375.6 - 518.1	406.4	359.8 - 457.6
17 Or More	15.6	10.4 - 22.8	23.3	14.3 - 35.6	72.2	48.1 - 105.3	107.6	65.9 - 164.6
Hospital size (annual births)								
Less than 1,000 births	15.8	11.4 - 21.6	21.4	17.5 - 26.0	148.2	106.5 - 202.2	201.1	164.5 - 243.5
1,000-1,999 births	23.1	17.3 - 30.2	20.2	16.1 - 25.0	181.0	135.3 - 236.4	158.0	126.2 - 195.5
2,000-2,999 births	15.9	10.1 - 24.2	20.3	16.7 - 24.4	173.7	109.9 - 264.7	221.4	182.1 - 266.7
3,000 Or more births	21.0	14.3 - 29.8	19.8	15.2 - 25.3	254.0	172.6 - 360.6	239.1	184.1 - 305.7

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

5. RECOMMENDATIONS

The NPHS is considered to have successfully met its primary objectives of providing valuable information on the national prevalence and patterns of prenatal substance exposure in the U.S. In reviewing the conduct of the survey, there were a number of aspects in the design that were seen as strengths and which contributed to the successful completion of the survey. It is recommended that these aspects be considered for future surveys of this nature. On the other hand, there were issues encountered for which, in retrospect, alternative approaches might have been more efficient or effective.

Key issues identified from the conduct of the NPHS are summarized here, together with recommended steps that may improve the design of future surveys. These recommendations pertain to surveys with objectives similar to those of the NPHS, and they are based solely on the NPHS experience.

Recruitment of Survey Hospitals

Recruitment of hospitals for the survey was an expensive and time-consuming process. Further, after expending considerable effort to gain the cooperation of hospitals originally selected into the sample, a substantial added effort was required to recruit replacements for those that refused participation. The unexpectedly high expense and time delay in recruitment resulted in the need to reduce the sample size, placed severe cost pressures on survey operations, and made it difficult to complete the survey within the available funds.

The NPHS had a complex data collection plan, and the management at many hospitals expected that the survey would place a significant burden on their nursing and medical records staffs. Also, a number of aspects of urine collection and testing were controversial. Careful explanation was needed to convey a clear picture of the survey components and of the care taken to address important concerns of the hospital management and the patients. The recruitment process was conducted mainly through telephone discussions, supplemented with extensive written materials. Visits by project staff were made to only a few of the hospitals. Within each sample hospital, heavy reliance was placed on a key hospital contact, usually the director of obstetric services, to gain the approval of the hospital management and the hospital's research review board. Most often, many contacts over a period of months were required to address the concerns of various parties and to move the process to the point of final decision.

> **Recommendation 1: The substantial time and expense required in this survey to gain the participation of a large sample of hospitals should be recognized, and allowance of sufficient resources for recruitment of the pertinent medical care facilities should be made in future complex surveys of this type.**

Recommendation 2: Future studies should evaluate the potential gain in efficiency of medical facility recruitment that might be achieved through use of more site visits by senior negotiation staff. Such visits might be utilized to present a carefully organized introduction of the survey to hospital management, with additional followup site visits as appropriate to assist in resolution of issues with hospital management and institutional review boards.

Selection and Employment of Field Staff

In selecting interviewers for data collection in the hospitals, consideration was given to use of nurses vs. lay persons and to employment of personnel residing near each hospital vs. traveling staff. In weighing the use of nurses vs. lay interviewers, nurses would be familiar with working in the hospital environment, and their training would prepare them for abstracting of medical records. However, there were concerns about the availability of and recruitment time for a sufficient number of nurses suited to the extensive demands of data collection (staff negotiations, detailed record keeping, interviewing, facility with the Spanish language, and other tasks). The higher compensation required by nurses in comparison to lay interviewers also was an issue. On the other hand, a pool of experienced lay field staff with proven interviewing skills in a variety of medical care settings had been identified from prior surveys. Many of these persons had often traveled between data collection sites in different cities. Established interviewing skills, proficiency in Spanish, lower cost and ready availability were seen as important advantages. As an alternative to on-site medical record abstracting, selected pages of the medical record could be photocopied and abstracted by trained staff at the central office.

In regard to the second point, use of traveling interviewers vs. field staff recruited locally at each hospital site, the increased travel expense associated with travelers would partially be offset by the greater costs of recruitment and training for the much larger number of local persons needed. Of equal importance, the comparatively smaller group of travelers required would permit more selectivity in choosing among candidates, more individualized training, more flexibility and control in scheduling, and better oversight over the quality of data collection.

Thus, the decision was made to use a core group of traveling lay interviewers to conduct the bulk of the data collection. This core group was supplemented with interviewers recruited from hospital locales to assist with multiple-hospital clusters. This approach proved to be one of the key strengths in conducting the NPHS. The women selected for this role could work independently and had good interpersonal skills. They were able to work effectively with the hospital staff and quickly gain rapport with the patients. As a result, a high interview completion rate and data of good quality were achieved under very demanding working conditions.

Recommendation 3: It is recommended that the field staffing model employed in the NPHS be used in similar future surveys. The primary qualifications of field staff are proven interpersonal and interviewing skills; training and careful study design can address other technical requirements. In the NPHS the benefits associated with employment of a small group of traveling lay interviewers were

considered to outweigh any relative advantages in the use of medically-trained professionals or any relative cost savings from the sole use of locally-recruited staff.

Access to Patients

New subjects were selected into the sample for the participating hospital each working day. The field interviewer then attempted to contact the mother and arrange for the interview. Inability to contact the mother or to complete the interview, before the mother was discharged from the hospital, were the most frequent reasons for nonresponse. Together they accounted for 8.9 percent of the total sample. In order to maximize the opportunity for interviewing women before discharge, contact attempts were started 6 hours after delivery for normal deliveries and after 36 hours for women delivered by cesarean section.

There is a general trend toward reduction in the length of hospital stays, and it appears that discharge of women having uneventful deliveries within 24 hours or less after delivery is becoming routine in most hospitals. Thus, future surveys which rely on contacting a mother before discharge may experience a substantial percentage of missed interviews representing a potentially important source of undercoverage of the target population. This aspect must be addressed in future studies.

Recommendation 4: The window of opportunity for interview of sample women while in the hospital can be expected to narrow. To limit the resulting undercoverage, future surveys must develop methods to address this aspect. For example, the feasibility of interviewing sample women after discharge should be investigated.

Approach to Collection of Data on Substance Use

The NPHS relied primarily on self-reports of substance use. This approach enabled collection of a rich mix of information on the scope of substances used, the timing of use before pregnancy and over the course of the pregnancy, and other important details that could not practically be obtained by other methods. There was a high overall rate of response to the questionnaire (87 percent of those mothers that could be approached), and nonresponse to individual questions on substance use was infrequent. In regard to the accuracy of reporting, urine test results indicated underreporting of cocaine and opiate use in the last few days of pregnancy within some subgroups of the sample. The few days covered by the urine test data could not provide any insight into misreporting over the total period of the pregnancy. Generally, the relative rates of use among population subgroups identified in the NPHS data were consistent with those found in other studies.

Recommendation 5: It is judged that an approach based on self-report can provide useful estimates of substance use in a large population, providing the data are obtained within a context which promotes accurate and complete reporting. The context should be nonthreatening and employ strong assurances of confidentiality. Concurrent use of toxicologic methods to help identify severe underreporting is recommended.

Scope of Survey Objectives

Overall, the NPHS had three analytic objectives: estimates of prenatal drug use from self-report, estimates of drug use based on urine tests, and assessment of the association of drug use and two infant health measures (not addressed in this report). Each of these objectives entailed substantial effort for data collection and, in combination, resulted in a complex series of tasks for the field interviewer. This was recognized, and the data collection in each hospital was scheduled at the maximum number of days that was feasible within cost limitations. Even so, there was still considerable time pressure on the interviewers to complete all data collection requirements for each sample person.

In retrospect, it would have been desirable to provide the interviewer with additional staff to assist in handling the urine specimens and medical record data or, alternatively, to have reduced the scope of survey objectives to decrease the complexity of data collection.

Recommendation 6: In future surveys of this nature, where the primary objective is determination of the prevalence of maternal drug use, careful consideration should be given to the demands imposed by secondary objectives (in this case, the infant outcome analysis). Tradeoffs in the value of each objective and the costs of adequate staffing and other data-related costs should be examined carefully.

Sample Size

The cost in time and money for survey hospital recruitment incurred during the Feasibility Study led to a reduction in the planned number of sample hospital clusters (the primary sampling units or PSUs for this survey) from 64 to 37 (see appendix section A.2 for a detailed discussion of this). The required precision levels of estimates for specified major subpopulations (i.e., blacks, Hispanics, whites, and mothers delivering in metropolitan area hospitals) were still achieved despite the reduced scope, but the confidence intervals for the estimates of substance use among finer subgroups were substantially wider than would have been desired.

The variability associated with the reduced sample size also affected the capability to identify statistically significant differences in substance use among various populations of interest. For example, although race/ethnicity was found to have a strong association with substance use, substantial differences in rates of use within race/ethnic groups associated with other characteristics of the population (e.g., age, education, marital status) were often observed. However, the sample sizes within cross-classifications of rates on demographic characteristics were often quite small, making the probability of detecting statistically significant differences between subgroups relatively low, due to the variability of the sample estimates. A larger sample of hospitals would have reduced this variation, and thus would have improved the capability to identify important subgroups of substance users across and within race/ethnic groups.

There was no attempt to control for seasonality either in births or drug use in fielding the NPHS. This would require a panel survey, an effort of much greater scope. If there is evidence that drug use varies substantially by month or season, consideration should be given in any future survey design to collect data on nationally representative subsamples of hospitals for specified time periods over the course of the year. Such a survey would be much larger than NPHS and thus costlier to implement.

> **Recommendation 7: Future surveys of a similar nature would benefit from the increased precision for sample estimates resulting from a larger sample size. Increased sample sizes (hospitals and mothers) would also permit better identification of important subgroups and possibly, seasonality in regard to drug use behavior.**

Stratification and Oversampling

Oversampling of hospitals in selected geographic areas was done to meet precision requirements for estimates of substance use among Hispanic mothers. However, no attempt was made to oversample hospitals in areas likely to contain relatively large numbers of substance users. If these types of hospitals could be reliably identified (say, large public hospitals in metropolitan areas), and were expected to cover a sizable proportion of the population using illicit drugs, sampling such hospitals at a higher rate than other hospitals could help improve the precision of the survey estimates for illicit substance use.

It should be pointed out that estimates for substance users who are not concentrated in such a stratum would have reduced precision using such a sample design, as opposed to a design in which all sampled mothers have approximately the same probability of selection. For example, if the rate of cigarette consumption during pregnancy is relatively uniform, estimates of cigarette usage obtained by oversampling certain types of hospitals would have reduced precision as compared to an equal probability sample. The expected reduction in precision for some estimates would have to be weighed against the expected increase in precision in other estimates to determine whether such a strategy would be worthwhile.

> **Recommendation 8: In future surveys, consideration should be given to oversampling hospitals thought likely to have a disproportionately high number of users of some (or most) substances, if the users in these hospitals represent a sizable proportion of all such users. This would improve the precision of**

corresponding survey estimates, although it also would reduce the precision of estimates for other substances where users are not concentrated in the same set of hospitals.

Toxicologic Testing

Results from tests of admission urine specimens were obtained in the NPHS to provide some method of assessing bias in estimates of substance use based on self-report. The utility of the urine test data obtained was marginal, given the basic limitations of such tests and the large proportion of the sample for which specimens were not collected. Analysis of the test results available did suggest underreporting of cocaine and (licit or illicit) opiate use during the last few days of the pregnancy in subgroups of the sample. However, no concrete inferences for the accuracy of reporting of substance use over the course of the pregnancy could be drawn. The NPHS experience suggested three concepts for incorporation into future surveys of prenatal drug use.

First, the survey subjects were asked to report use within the last 3 days before delivery for comparison with urine test results. This time period was used as most illicit drugs usually cannot be detected in the urine after about 3 days, although the window of detection may be protracted in long-term high-dose users. Marijuana may often be detected up to 7 days after use. Thus, a women with a positive urine test may have accurately reported no use within the last 3 days. Also, the time of use in reference to the time of delivery may not have been accurately recalled. These uncertainties would have been minimized had a longer time span been defined for reporting of recent use—say, use within the last week before delivery.

The second issue is the low urine collection rate experienced in the NPHS. The rate among hospitals varied from 14 percent to 95 percent, with the lowest average rate of collection occurring in the largest hospitals. While the policy in each hospital called for routine collection of admission urines, where possible, it was found that the specimen remaining after clinical testing was often not saved for survey use. A number of devices were used in the NPHS to encourage retention of the urine specimen: orientation sessions with the obstetric nurses, posters placed in admitting areas, and monitoring of collection with reminders by the survey interviewer. Although these efforts were fairly effective in a number of hospitals, they clearly were not sufficient for large, busy obstetric services, and additional methods might have improved the survey collection rate. Direct monetary incentives were used in a statewide survey done in South Carolina, and it appeared this contributed to the high collection rate achieved there. Thus, the use of such incentives should be explored in future studies where reliance is placed on the medical facility staff to obtain the necessary specimens.

The third, and more fundamental issue, concerns the overall value of a single urine test result obtained from a specimen taken at admission for delivery. For the NPHS, the design dictated the single specimen, and urine testing was considered the only reliable toxicological method available at the time. Given the limitations of this procedure, though, alternative approaches and methods to those used in the NPHS should be considered in future studies. The cooperation rate in collection of hair samples for drug testing was very good in the small group of women approached in this survey. If hair testing is accepted as technologically valid, this may prove to be a more useful method for obtaining toxicological data for comparison with reported use, given that exposure at some time during a period of several months can be detected.

> **Recommendation 9: In using urine tests in future surveys for comparison with self-reported use, it is recommended that the period for reporting of recent use be at least 7 days.**
>
> **Recommendation 10: In future studies that will rely on medical facility staff to collect admission urine specimens, it is recommended that use of monetary incentives be considered to encourage a high rate of retention of specimens for the survey.**
>
> **Recommendation 11: While admission urine test results have some value as a measure of recent prenatal drug use, they provide no information on use earlier in the pregnancy. In future surveys significant reliance on tests of an admission specimen alone is not recommended. Alternative designs to that of the NPHS that use multiple urine tests to cover more of the pregnancy, or other toxicological methods such as hair or meconium tests that cover longer periods of the pregnancy, should be considered.**

Appendix A

Technical Appendix: Survey Design, Operations, Weighting, and Estimation

TECHNICAL APPENDIX: SURVEY DESIGN, OPERATIONS, WEIGHTING, AND ESTIMATION

A.1 Issues Affecting the Design and Implementation of the Survey

A variety of issues were considered in arriving at the final design of the survey that resulted in a number of modifications over the course of its development. In addition to the usual concerns of obtaining estimates meeting specified precision, the design decisions were guided by several other considerations. Among these were the sensitive nature of the data to be collected, the burden on the mother and the hospital, and the workload of the interviewer. For discussion purposes, the issues have been divided into two groups—those concerned with sampling and estimation, and those associated with survey participation and data collection.

A.1.1 Issues Related to Sampling and Estimation

Issues related to sampling and estimation included:

- Determining the number of sample mothers to select within hospitals;
- Establishing the minimum number of births per hospital consistent with other requirements;
- Determining the number of hospitals in the sample;
- Allocating the sample of hospitals across the Nation;
- Obtaining a sufficient number of black and Hispanic mothers to produce estimates at the specified precision levels for these subpopulations;
- Seasonality effect of births; and
- Date of sample frame.

The nature of the considerations that helped mold the sample design into its ultimate form can be illustrated by those aspects relevant to the sampling of mothers within hospitals. The larger the sample size within a hospital, the fewer the number of hospitals that would be required. This was a positive feature in terms of the cost of recruiting hospitals for survey participation. However, larger sample sizes involved longer data collection periods in a given hospital, increasing hospital burden. Moreover, the variability of the survey estimates would be increased as well, to the extent that women in the same hospital were similar in terms of reported substance use. Balancing these various concerns, it was initially decided to limit the interviewer's stay in a hospital to approximately 20 days (later changed to 25, as discussed below). Estimating a reasonable workload for an interviewer of about 4 sampled mothers per day, a targeted workload of 85 sampled mothers per hospital over a 20-day period was established for metropolitan area hospitals. (The targeted sample sizes and interview days in nonmetropolitan area hospitals were somewhat lower, as noted below).

Hospitals on the sampling frame that were found to have too few expected births to reach this "four per day" target were combined into a single cluster for sampling purposes. Metropolitan area hospitals with relatively low numbers of births were clustered with nearby hospitals so that, in total, a sample of 85 mothers in 20 days could be obtained from the entire unit. These sample sizes translated into a minimum of about 1,600 births annually in a metropolitan area hospital or hospital cluster. Nonmetropolitan area hospitals were typically smaller (and thus required bigger cluster sizes) and were dispersed over larger geographic areas. Thus, greater expense per cluster would be incurred to obtain participation and collect the data than in a metropolitan cluster. For these reasons, the workload per interviewer was established at 56 mothers in 17 days, or a minimum of some 1,300 births annually in a nonmetropolitan area hospital or hospital cluster. In the pilot study, it was determined that the goal of 85 sampled mothers in 20 days resulted in too heavy a workload for interviewers, so a 25-day interviewing period became the norm for metropolitan area hospitals, with a target of interviewing roughly 3.5 sampled mothers per day.

The Feasibility Study conducted prior to the national survey in 30 hospitals indicated that the unexpectedly high costs of hospital recruitment would necessitate limiting the survey to 50-60 hospitals, rather than the roughly 100 hospitals that had been planned. After this reduction, projected sample sizes for black mothers appeared to be adequate to meet precision criteria, but it was uncertain as to whether a sufficient number of Hispanic women would be included in the sample. As time and cost constraints precluded screening hospitals before sample selection to estimate the expected number of Hispanic mothers, it was decided to oversample hospitals in geographic areas with large Hispanic populations. This was accomplished by restratifying the sample frame of hospitals into three strata: metropolitan area, high Hispanic; metropolitan area, other; and nonmetropolitan area. Then additional hospitals or hospital clusters were selected to meet the precision requirements for Hispanic mothers.

Another issue considered during the design of the sample was the seasonality of births. On the national level, data on births show a definite seasonal pattern, with more births recorded in late summer and fewer in early winter. The extent to which substance use by expectant mothers is seasonally oriented is unknown. However, because of cost and time constraints, no attempt was made to control for seasonal effects in the survey. Data were collected for women delivering during the period of November 3, 1992 to August 18, 1993.

Finally, the sample frame was derived from a data base reflecting births in hospitals in 1989, while the start of data collection was planned for the fall of 1992. It was desired to establish sampling rates within hospital clusters to achieve approximately a self-weighting sample, in order to minimize the variance of the estimates. However, changes in the number of births within hospitals since 1989 could potentially have required adjustments of sampling rates that would affect the precision of the survey estimates. This was closely examined when establishing initial sampling rates of mothers within hospitals. Recent birth data were obtained from sample hospitals before settling upon a rate to be used. In addition, any new hospitals that were not listed in the 1989 frame represented an undercoverage of the population of interest, although this would be small.

A.1.2 Issues Related to Survey Participation and Data Collection

Many issues had to be addressed in developing a plan to secure hospital and mother participation and to ensure, to the extent possible, the accuracy of the data collected. Following is a description of some of the more important issues that had to be addressed.

- **Obtaining and retaining hospital cooperation.** It was recognized that many hospitals might express concerns about various components of the study, resulting in the need to expend substantial time in obtaining their cooperation. Further, some hospitals, despite the greater effort, might still decline to take part, requiring the recruitment of replacements. Since these concerns were borne out by the results of the Feasibility Study, the final sample size of hospitals was reduced to reflect the available project resources for recruiting hospitals.

- **Identifying and sampling mothers of newborns.** Mothers delivering live births were to be identified from the daily delivery log maintained by each hospital. A method was required to ensure that women would be selected according to the sampling rate specified for the hospital cluster. To accomplish this, women were listed on a sampling sheet in the same order as the log. The sampling sheet contained preentered arrows, reflecting the appropriate sampling rate, that indicated the mothers to be selected into the sample.

- **Optimizing the time of visit to mothers.** Interviewers were to contact sampled women before they left the hospital but not so soon after delivery as to be perceived as unwelcome. Recognizing such limitations, and given that a single interviewer was to be assigned to a hospital, a logistically feasible approach was developed to maximize the number of women contacted at an appropriate time after the birth, yet before they left the hospital.

- **Maximizing the accuracy of response.** The survey entailed sensitive questions about the woman's use of substances during pregnancy, both legal and illegal, that might have a harmful effect on her baby's health. A variety of different procedures were considered before selecting those expected to best promote cooperation and accurate reporting. The approach chosen included the use of a self-administered questionnaire, concealment of responses on substance use and treatment from interviewers, provision to respondents of copies of the

Confidentiality Certificate[a], and the elimination of personal identifiers to ensure anonymity after data collection at the hospital was complete.

- **Validation efforts.** Validation of substance use reported by respondents was a major requirement of the study. Several different toxicological assays were considered for this purpose that made use of the mother's urine or hair, or the infant's meconium. Both hair and meconium had the advantage of detecting drug use during the last 2 to 3 months of a mother's pregnancy, whereas a test of urine obtained at hospital admission could detect substance use only during the last few days before birth. The reliability of hair and meconium test results was somewhat uncertain, as was the expected cooperation of mothers in providing a hair sample. Also, collection of infant meconium would place a substantial burden on the hospital's staff. On the other hand, the assay of urine for illicit drugs was well-accepted and standardized. In addition, assay of specimens for drugs without consent was desired, which was only feasible if done on specimens collected for medical reasons. Thus, it was decided to test routine admission urine samples from mothers and add a set of questions about substance use during the last 3 days before delivery for comparison purposes. In addition, hair samples would be collected with consent from mothers in six hospitals on an experimental basis in order to learn more about the potential for using such test results in future studies. The hair samples would be preserved until procedures acceptable to NIDA were available for testing the specimens.

  The issue of how best to use urine test results for analysis of bias had to be addressed. Ideally, specimens would be tested for each sampled woman, and the results could be directly compared to survey responses on drug use during the last 3 days of pregnancy. However, mothers who used drugs might be less likely to allow urine test results to be linked to their confidential survey responses. Other mothers who used drugs might choose not to participate in the survey. Thus, it was decided to use a two-component approach adapted from a method developed by the Centers for Disease Control for HIV surveillance.

  Urine specimens were routinely collected for clinical testing by the hospital staff for all obstetric admissions to the sampled hospitals. All mothers selected for the survey had the remainder of their specimen divided into two portions, marked with ID numbers, and set aside for testing. One portion was designated as the "blinded" specimen; this portion was tested without seeking consent from the sampled women. Identifiers were removed so that test results could not be linked to a specific individual or hospital, or to other survey data obtained for the person. The other portion of the specimen was designated as the "nonblinded" specimen. This portion was tested only with the explicit consent of the woman, and test results were linked through an ID number to data obtained in the questionnaires and medical record abstracts.

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[a] This certificate, issued under the authority of the Secretary, Department of Health and Human Services, provides immunity under Federal law to the project staff from being forced to reveal data for a specific individual in any civil or criminal proceedings.

Partitioning the urine test data permitted two different types of analyses. First, the nonblinded test results were compared to questionnaire responses about recent drug use for women who gave their permission for testing. Second, comparison of estimates based on the nonblinded and blinded test results provided some insight into potential bias from nonparticipation.

- **Maintaining manageable interviewer daily workloads with scheduled off-days while minimizing total time in the hospital.** Sampling rates were developed to ensure a relatively uniform daily workload for the interviewer. Daily sample yields were closely monitored in order to respond quickly if the actual number of mothers selected for a hospital during the survey period departed substantially from the expected number.

  Allowing interviewers a regular time-off period also became an issue with statistical implications due to concerns about a potential "day of the week" effect. Some deliveries are scheduled events (such as C-sections) and are typically performed on a weekday. The proportion of births on weekends is generally lower than that on weekdays. Moreover, if drug use was more likely on certain days (e.g., Friday or Saturday), taking day-of-week into account would be important.

  The operational constraints imposed on the scheduling of interviewers' days off were that they had to be 2 consecutive days, one of which was to be on a weekend. It was decided to assign approximately half of the scheduled days off as Friday-Saturday with the remainder assigned as Sunday-Monday. The base sample weights incorporated this aspect of the design by being roughly doubled for any births occurring on Friday through Monday. (The factors used reflected the actual number of times a sample was obtained from each day of the week).

A.2 Sample Design

The sample design evolved over time as changes were made in the scope of the survey. Originally, a survey of much larger scope was planned. However, a preliminary study of the feasibility of hospital recruitment indicated that the funds available would be insufficient for the planned sample size. As a result, the number of hospitals to be included in the sample was reduced, and changes were made in the sample design to obtain estimates of specified precision for some, but not all, of the original subgroups of interest.

This section begins with a brief history of the development of the sample design, followed by an overview of the final sample design. Section A.2 concludes with technical details of sample selection.

A.2.1 The History of the Development of the Sample Design

The Original Design

The original scope of this survey was much broader than the survey ultimately conducted. Initially, plans were made to obtain estimates of specified precision for metropolitan areas within each of the nine Census divisions and nonmetropolitan areas within the four Census regions, in addition to national estimates for Hispanics, blacks, and whites. However, from the beginning of survey development, there were concerns about the feasibility of implementing the original plan within the existing cost and time parameters. Nevertheless, to maintain flexibility prior to the Feasibility Study, the original sample selection of hospitals reflected the original precision requirements for metropolitan-divisional and nonmetropolitan-regional estimates.

Hospitals were clustered for sample selection purposes. The original sample allocation of hospitals for metropolitan areas within Census divisions and for nonmetropolitan areas within Census regions resulted in the selection of 52 hospital clusters in metropolitan areas and 24 in nonmetropolitan areas, roughly 140 individual hospitals in all. Sample selection was done with probability proportionate to the number of births in 1989 within 13 strata: the nine Census divisions for hospitals located in metropolitan areas and the four Census regions for hospitals located in nonmetropolitan areas. Due to cost concerns, a subsample of 12 of the 24 nonmetropolitan hospital clusters was drawn shortly thereafter. This resulted in 52 sampled metropolitan clusters consisting of 75 hospitals in all and 12 sampled nonmetropolitan clusters with a total of 31 hospitals; overall, 64 clusters with 106 individual hospitals were selected. This was the sample of hospitals prior to the Feasibility Study.

The Feasibility Study

The Feasibility Study was undertaken to assess hospital cooperation and the cost of conducting the survey. It was decided to directly approach a group of hospitals already selected for the survey to determine their willingness to participate. This had the benefit of minimizing expenditures in terms of time, effort, and money. A subsample of 30 hospital clusters was drawn with probability proportionate to size from the total sample of 64 clusters selected. The measures of size used in sampling were the annual number of births for a hospital cluster weighted by the reciprocal of the probability of selection of that cluster for the survey, so that the 30 clusters selected represented a national sample drawn with probability proportionate to number of births. A purposive sample of 30 individual hospitals was then chosen from the 30 clusters for the Feasibility Study. Not all of the 30 clusters were represented in the 30 individual hospitals chosen.

The results of the Feasibility Study indicated that the original scope of the survey would have to be reduced, due to the magnitude of the costs and effort that would be required for hospital recruitment and data collection of the full, planned sample. The sample of 30 hospital clusters drawn for the Feasibility Study was then proposed as a possible basis for a national study. Estimates for the metropolitan areas of the individual Census divisions and for the nonmetropolitan U.S. population as a whole were dropped as survey objectives. The revised objectives became the development of national estimates for the country as a whole; separately for blacks, Hispanics, and whites; and separately for mothers giving birth in metropolitan areas.

With the proposed reduction in sample size, the ability to meet the specified precision levels of estimates for blacks and Hispanics required reexamination. Projections of sample yields and design effects for these two subpopulations indicated that the expected level of precision would be acceptable for estimates for black women but not necessarily for Hispanics, even with a slight relaxation of the precision requirements (the relative standard error requirement for Hispanics was changed to 35 percent, from 30 percent, for a 5 percent estimate of prevalence). Thus, it was decided to enhance the sample of hospitals, sampling more heavily in areas of the country with large Hispanic populations. Details of this sample enhancement are discussed in section A.2.3.

A.2.2 Final Sample Design

A.2.2.1 The Design Requirements and The Population Surveyed

The primary purpose of this study was to develop national estimates of the prevalence and patterns of the use of selected substances during pregnancy. Final design specifications called for estimates at the national level for mothers of newborns and for specified subgroups of these mothers: (1) blacks, Hispanics, and whites; and (2) those giving birth in metropolitan areas. The sample sizes were determined so that prevalence estimates as low as 5 percent would have Relative Standard Errors (RSEs) of no more than 30 percent for all groups of interest except Hispanics, for whom the RSEs were not to exceed 35 percent. (The RSE is a measure of the variability of an estimate expressed as a percentage of the size of the estimate. Specifically, it is the ratio of the standard error of an estimate to the estimate itself, with the resulting quantity multiplied by 100 to express it as a percentage.) While the population of interest was that of mothers of newborns in the Nation, the actual population surveyed was restricted to those giving birth in hospitals in the contiguous 48 States, in order to make the survey feasible. Approximately 99 percent of all live births are delivered in hospitals. Further reductions to the frame were made by excluding hospitals with less than 200 births and most Federal hospitals. Women who spoke neither English nor Spanish were considered ineligible for the survey.

A.2.2.2 Overview of Sample Selection

An overview of the process of sample selection is presented here. Further technical details may be found in sections A.2.2.3 and A.2.2.4.

The sample design called for a two-stage sample selection procedure. Hospitals were selected at the first stage and mothers of live-born infants were selected from the sampled hospitals at the second stage. In order to assure that the sample included sufficient Hispanic mothers to meet the precision requirements discussed above, the sample frame of hospitals was restratified to include a separate sampling stratum of hospitals in metropolitan areas with a high percentage of Hispanic residents, and a supplemental sample of hospitals was drawn.

The Sample Frame

The sample frame of hospitals established for the survey was a subset of the hospitals listed in the 1990 SMG Hospital Market Data Base, compiled by the SMG Marketing Group of Chicago. The sample frame covered women in the 48 contiguous States giving birth in non-Federal hospitals, but including Indian Health Service hospitals, with more than 200 births in 1989. Most Federal Government hospitals were excluded from the sample frame since there are relatively few deliveries in these hospitals, and there was a concern about obtaining permission for access to these hospitals in a timely fashion. Hospitals with less than 200 births were excluded, as data collection in hospitals with a low number of annual deliveries would be quite inefficient, and such hospitals represent only a small percentage of all births (about 3 percent of all births on the SMG data base). Many of the hospitals on the data base did not have obstetric services (e.g., psychiatric hospitals). These two exclusions reduced the number of hospitals on the frame from 7,464 to 2,860, yet still included approximately 95 percent of all reported live births in U.S. hospitals within the 48 contiguous States. The coverage rates for geographic subgroups, after excluding Alaska and Hawaii, are given in table A-1. The sample frame covered at least 95 percent of the births in hospitals for all the subgroups indicated, except for nonmetropolitan areas (82.9 percent).

After further excluding women who spoke neither English nor Spanish from the survey, it was determined that estimates from the sample would represent coverage of about 91 percent of the total annual live births in the United States, delivered in or outside of hospitals. This percent coverage is a cumulative result of approximately 99 percent of births occurring in hospitals, 94 percent of hospital births included in the sample frame, and about 98 percent of the target population speaking either English or Spanish.

Elements of the Sample Frame: Hospital "Clusters"

The sample frame was restricted to those hospitals with 200 or more births annually. A decision had to be made as to how to handle those with a relatively low expected number of births. The period that an interviewer would have to stay at a small hospital to obtain the targeted number of births could exceed the budgeted stay of 4 to 5 weeks. To deal with this problem, hospitals that did not meet a minimum annual size (1,700 births in metropolitan areas and 1,300 births in nonmetropolitan areas) were grouped with nearby hospitals so that, in combination, a hospital "cluster" with a minimum size was approximately achieved. A hospital cluster could consist of one or more hospitals. A sample of hospital clusters was drawn for the survey. There were an average of roughly 1.5 individual hospitals per cluster in metropolitan areas and 2.5 hospitals per cluster in nonmetropolitan areas.

Table A-1. Coverage of geographic subpopulations after exclusions from the sample frame (the 1990 SMG Hospital Market Data Base – 1989 birth figures)

	Number of births in all hospitals in the contiguous 48 States (before exclusions)	Number of births in hospitals remaining on frame (after exclusions)	Percent of all births represented by hospitals remaining on frame (percent coverage of populations)	Number of hospitals before exclusions	Number of hospitals remaining on frame after exclusions
Nation, overall	3,807,591	3,614,680	94.93	7,464	2,860
Nonmetropolitan areas, overall	637,226	527,975	82.86	2,936	966
Metropolitan areas, overall	3,170,365	3,086,705	97.36	4,528	1,894
Metropolitan areas in census divisions:					
New England	163,600	162,739	99.47	275	97
Middle Atlantic	506,924	504,581	99.54	700	328
East North Central	526,683	521,267	98.97	689	348
West North Central	177,337	172,969	97.54	284	125
South Atlantic	512,998	490,175	99.55	780	248
East South Central	148,047	142,547	96.28	271	96
West South Central	374,724	359,293	95.88	594	244
Mountain	159,543	154,168	96.63	228	87
Pacific	600,509	578,966	96.41	730	321

Stratification and Sample Selection of Hospital Clusters

Prior to the Feasibility Study, a sample of 64 hospital clusters had been selected, 52 in metropolitan areas and 12 in nonmetropolitan areas. The major stratification variables were census division, hospital size in terms of number of births, and 3-digit ZIP code.

A subsample of 30 of these clusters was selected, and hospitals within these were chosen for the Feasibility Study. After the Feasibility Study, it was decided to explore the possibility of reducing the scope of the national survey to the 30 hospital clusters selected for the

Feasibility Study. Thus, the ability of the design to meet the precision requirements had to be reevaluated.

Projections indicated that a sufficient sample of black mothers would be obtained to meet precision requirements, but the sample of Hispanics might be inadequate. The screening of mothers by Hispanic origin during data collection in the hospital was considered too costly and potentially troublesome to implement. Thus, it was decided to use a type of sampling procedure commonly employed to permit, with high probability, the retention of hospitals previously selected, while resampling with a different stratification scheme to supplement the sample of Hispanic mothers[b].

To this end, a sampling stratum was constructed consisting of hospitals in metropolitan areas with a relatively high concentration of Hispanics and covering a large proportion of the U.S. Hispanic population. Hospital clusters in this stratum were selected at a sufficiently high rate to achieve estimates of the desired precision level. In all, as part of the supplemental sampling procedure, three separate sampling strata were established:

(1) Hospitals in metropolitan areas with high Hispanic populations (Metro-Hispanic);

(2) Hospitals in other metropolitan areas (Metro-Other); and

(3) Hospitals in nonmetropolitan areas (Nonmetro).

The sample of hospital clusters was selected with probability proportionate to the number of births in 1989 (as indicated in the SMG data base) within each of the three strata. Thirty-seven hospital clusters were selected in all: 12 hospital clusters from the Metro-Hispanic stratum; 21 from the Metro-Other stratum; and 4 from the Nonmetro stratum. The 37 sampled hospital clusters included 60 individual hospitals in all. Within hospital clusters, an average sample size of 85 women in metropolitan areas and an average of 56 women in nonmetropolitan areas were targeted.

Further details on the selection of this supplemental sample appear in section A.2.2.3.

Nonmetropolitan Hospitals

The decision was made to include a disproportionately low number of hospitals (in terms of number of births) located in nonmetropolitan areas. The reasons for this involve time, costs, and the relatively low percentage of births in nonmetro areas.

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[b] A detailed description of the procedure employed, known as a Keyfitz procedure, is given in appendix A.2.2.3.

Nonmetropolitan hospitals represent about 40 percent of all hospitals in the Nation but only about 17 percent of the births. Moreover, in many such hospitals the number of births per day would be much lower than the interviewer's planned workload, and their dispersed location would often not permit the formation of geographically proximal clusters of hospitals. Thus, implementing the survey in nonmetropolitan hospitals would require a high level of effort for a relatively small proportion of the population of interest. Higher costs could be expected, both in gaining the cooperation of hospitals and interviewing in several small hospitals, since on average, nonmetropolitan hospital clusters were considerably larger in terms of number of hospitals than those in metropolitan areas. A strictly proportionate distribution of sample hospital clusters selected from the frame, including all hospitals in the contiguous 48 States, would have called for 6 hospital clusters selected from nonmetro areas. Instead, four were actually selected. Since survey estimates associated with hospitals in nonmetropolitan areas are highly variable, they have not been shown separately in this report.

Substitution for Nonparticipating Hospitals

Recognizing the fact that some of the hospitals selected for the survey would refuse to participate, a substitution procedure was developed. If the refusing hospital represented more than roughly 33 percent of the mothers to be sampled from a given hospital cluster, it would be replaced if feasible (one hospital representing about 43 percent of the births of its cluster was not replaced). When a small hospital was not replaced, the targeted sample size of women for its cluster was selected from the remaining hospitals in the cluster. The cost and time involved in negotiating with a replacement hospital that would contribute relatively few births to the sample was considered cost-inefficient. This approach had some potential for introducing a small degree of bias into the estimates, to the extent that mothers in smaller hospitals were underrepresented in the sample and were different in terms of substance use from mothers who were sampled in their stead.

In the initial sample of 60 individual hospitals, 21 refused participation. Of these 21, 13 hospitals in 12 clusters were replaced, while 8 hospitals were considered too small to warrant the high cost of replacement. These eight would have provided an estimated 5 percent of the respondents to the questionnaire on substance use. Instead the designated sample of women was obtained from another hospital in the same cluster, as described above.

Substitute hospitals were matched as closely as possible with the nonparticipants on the following criteria: similar size in terms of number of births per year; percent black and percent Hispanic in the 5-digit ZIP code area containing the hospital; and geographic proximity within the State.

Sample Selection of Women within Hospitals

A sample of mothers delivering live births was selected from cooperating hospitals. Women who spoke neither English nor Spanish were considered ineligible for the survey. On average, 85 mothers were targeted for sample selection from each hospital cluster in metropolitan areas, while 56 mothers were targeted from each cluster in nonmetropolitan areas. A single "within cluster" sampling rate was established for each hospital cluster. This helped reduce the need for differential weighting among hospitals and thus improved the precision of sample estimates. Sampling rates within hospital clusters were designed to be self-weighting. However, it was sometimes necessary to revise the sampling rate when the actual number of births differed from the expected number, and thus affected the interviewer's workload.

A.2.2.3 Enhancing the Sample Size of Hospitals Beyond the 30 Selected for the Feasibility Study

A national sample of 30 hospital clusters had been drawn for the Feasibility Study. To increase the expected sample yield of Hispanics, the original sample frame was partitioned into three strata. Hospitals were classified as: Metro Area-High Hispanic; Metro Area-Other; and Nonmetro Area. Measures of size were then determined for sample selection purposes for all hospital clusters on the sample frame (including all clusters previously selected). This procedure for sample selection was a Keyfitz-like procedure, designed to maximize the retention of hospitals previously selected. In fact, the allocation of the sample to the three strata was done in such a way as to assure that all 26 previously selected metropolitan hospital clusters would be retained, but with a non-zero probability that one of the four nonmetropolitan clusters would fall out. Each of the steps involved in the selection process is discussed in this section.

Establishment of the Three Strata

Exhibit A-1 identifies the counties comprising the Metro Area-High Hispanic stratum. These counties have the following characteristics:

- The Metropolitan Statistical Area (MSA) in which these counties are found had a population of at least 150,000 Hispanics in 1990 (Census data);

- Only the counties in the MSA with a Hispanic population of at least 13 percent were included;

- Approximately 62 percent of the U.S. Hispanic population resided in these counties; and

- The percentage of the population that was Hispanic within this set of counties considered as a whole was approximately 27 percent.

Exhibit A-1. Counties comprising the Metro Area-High Hispanic stratum

County name	State	MSA 1990 Code	FIPS State Code	FIPS County Code	County population Hispanics 1990	County population 1990	Proportion of county population that was Hispanic 1990
CAMERON	TX	1240	48	061	212,995	260,120	0.819
EL PASO	TX	2320	48	141	411,619	591,610	0.696
FRESNO	CA	2840	06	019	236,634	667,490	0.355
HIDALGO	TX	4880	48	215	326,972	383,545	0.852
MARICOPA	AZ	6200	04	013	345,498	2,122,101	0.163
BEXAR	TX	7240	48	029	589,180	1,185,394	0.497
COMAL	TX	7240	48	091	11,864	51,832	0.229
GUADALUPE	TX	7240	48	187	19,246	64,873	0.297
SAN DIEGO	CA	7320	06	073	510,781	2,498,016	0.204
ARLINGTON	VA	8840	51	013	23,089	170,963	0.135
KANE	IL	1602	17	089	43,535	317,471	0.137
COOK	IL	1602	17	031	694,194	5,105,067	0.136
DALLAS	TX	1922	48	113	315,630	1,852,810	0.170
ELLIS	TX	1922	48	139	11,243	85,167	0.132
ADAMS	CO	2082	08	001	49,179	265,038	0.186
DENVER	CO	2082	08	031	107,382	467,610	0.230
BRAZORIA	TX	3362	48	039	33,797	191,707	0.176
GALVESTON	TX	3362	48	167	30,962	217,399	0.142
FORT BEND	TX	3362	48	157	43,892	225,421	0.195
HARRIS	TX	3362	48	201	644,935	2,818,199	0.229
ORANGE	CA	4472	06	059	564,828	2,410,556	0.234
LOS ANGELES	CA	4472	06	037	3,351,242	8,863,164	0.378
VENTURA	CA	4472	06	111	176,952	669,016	0.264
RIVERSIDE	CA	4472	06	065	307,514	1,170,413	0.263
SAN BERNARDINO	CA	4472	06	071	378,582	1,418,380	0.267
DADE	FL	4992	12	025	953,407	1,937,094	0.492
PASSAIC	NJ	5602	34	031	98,092	453,060	0.217
HUDSON	NJ	5602	34	017	183,465	553,099	0.332
BRONX	NY	5602	36	005	523,111	1,203,789	0.435
KINGS	NY	5602	36	047	462,411	2,300,664	0.201
NEW YORK	NY	5602	36	061	386,630	1,487,536	0.260
QUEENS	NY	5602	36	081	381,120	1,951,598	0.195
UNION	NJ	5602	34	039	67,797	493,819	0.137
CUMBERLAND	NJ	6162	34	011	18,348	138,053	0.133
ALAMEDA	CA	7362	06	001	181,805	1,279,182	0.142
SAN FRANCISCO	CA	7362	06	075	100,717	723,959	0.139
SAN MATEO	CA	7362	06	081	114,627	649,623	0.176
SANTA CLARA	CA	7362	06	085	314,564	1,497,577	0.210
SANTA CRUZ	CA	7362	06	087	46,797	229,734	0.204
NAPA	CA	7362	06	055	15,941	110,765	0.144
SOLANO	CA	7362	06	095	45,517	340,421	0.134
YOLO	CA	6920	06	113	28,182	141,092	0.200
BERNALILLO	NM	200	35	001	178,310	480,577	0.371
NUECES	TX	1880	48	355	152,051	291,145	0.522
SAN PATRICIO	TX	1880	48	409	29,809	58,749	0.507
TUCSON	AZ	8520	04	019	163,262	666,880	0.245
Total in strata					13,887,708	51,061,778	0.272
Total Hispanics in Nation					22,354,000		
Proportion of Hispanics nationally that are found in the stratum					0.621		

The first two characteristics defined the counties to be included in the Metro Area - High Hispanic stratum. They were chosen in an attempt to balance the coverage of the Hispanic population (62 percent) with a relatively high concentration of Hispanics (27 percent). Higher concentrations would tend to increase sample yields but could have reduced the precision of the estimates by increasing the design effect associated with differential weighting. Lower concentrations might not have yielded a sufficient sample of Hispanics to meet survey precision requirements.

Each hospital cluster was assigned to one of the three strata. Since clusters of hospitals could span multiple counties, and since metropolitan hospital clusters were partitioned into two strata, it was important to link a cluster to exactly one county. This was done by sorting the hospitals within each cluster by county, then totaling the number of births over all hospitals within each county linked to the cluster, and finally assigning the cluster to the county with the most associated births.

Once each hospital cluster was linked to a county, each was assigned to one of three strata as follows:

- Metro Area-High Hispanic, if the cluster was in a metropolitan area and the assigned county was listed in exhibit A-1;
- Metro Area-Other, if the cluster was in a metropolitan area and the assigned county was *not* on the list; and
- Nonmetro, if the cluster was in a nonmetropolitan area.

Computation of Probabilities to be Incorporated into the Measures of Size

A set of probabilities was computed and then compared to the original probabilities of selection in order to determine what measure of size to assign each hospital cluster prior to selection of the new sample. These probabilities of selection were computed as follows:

Let

m_1 = the targeted number of sampled hospital clusters for the Metro Area-High Hispanic stratum (stratum 1)

m_2 = the targeted number of sampled clusters for the Metro Area-Other stratum (stratum 2)

m_3 = the targeted number of sampled clusters for the Nonmetro Area stratum (stratum 3)

S_i = the total number of births in stratum I

$S = \sum_{i=1}^{3} S_i$ = the total number of births in the Nation (among non-Federal or IHS hospitals with 200 or more births) = 3,614,680

b_{ij} = the number of births associated with cluster j in stratum i (for the original sample of 30 the subscript i has been dropped)

The original probability of selection P_o for the j^{th} hospital cluster was calculated as

$$P_{oj} = \frac{30\, b_j}{S}.$$

The probability of selection for each cluster j in stratum i for comparison purposes was calculated as

$$P*_{ij} = \frac{m_i b_{ij}}{S_i}.$$

For each hospital cluster in the sample after selection of the supplemental sample, the value $P*_{ij}$ represents the overall probability of selection of the cluster.

Determination of Measure of Size to be Assigned to Each Hospital Cluster on the Sample Frame.

The following criteria were used to assign measures of size to each hospital cluster on the frame regardless of whether or not they were among the 30 cluster originally sampled. The value MOS_{ij} represents the measure of size assigned to cluster j in stratum i.

1. If $P_{oij} \leq P*_{ij}$ and cluster j was among the 30 clusters originally selected, the value assigned MOS_{ij} was

   $MOS_{ij} = 1.$

2. If $P_{oij} \leq P*_{ij}$ and cluster j was not previously selected, the value assigned MOS_{ij} was

   $$MOS_{ij} = \frac{(P*_{ij} - P_{oij})}{(1 - P_{oij})}$$

3. If $P_{oij} > P*_{ij}$ and cluster j was previously selected, the value assigned MOS_{ij} was

$$MOS_{ij} = \frac{P*_{ij}}{P_{oij}}$$

4. If $P_{oij} > P*ij$ and cluster j was not previously selected, the value assigned MOS_{ij} was

$$MOS_{ij} = 0.$$

The values of S_i and m_i were:

$m_1 = 13$ $S_1 = 924{,}485$
$m_2 = 20$ $S_2 = 2{,}162{,}220$
$m_3 = 4$ $S_3 = 527{,}975$

The choice of $m_1 = 13$ was made to assure that at least 12 hospital clusters would be selected from the Metro Area-High Hispanic stratum. The choice of $m_2 = 20$ was made to assure that all of the clusters previously selected for the sample would be retained in the Metro Area-Other stratum. Many hospitals in this stratum had already been contacted and negotiations initiated to obtain participation in the survey. It would have been quite costly to have lost such hospitals from the sample. With $m_1 = 13$ and $m_2 = 20$, MOS_{ij} was assigned the value 1 for all sampled clusters in strata 1 and 2.

The choice of $m_3 = 4$ was made because it was not considered critical for survey purposes to retain all four of the nonmetropolitan hospital clusters originally selected. Births in nonmetropolitan area hospitals represent a relatively small percentage of the births in the Nation, about 16 to 17 percent, and separate estimates for mothers of newborns in nonmetropolitan areas of the country were no longer planned. Reducing the percentage of nonmetropolitan clusters was expected to result in only a minor increase in variance and would help control survey costs (data collection in a nonmetropolitan hospital cluster was considerably more expensive than in a metropolitan cluster because it contained an average of one more individual hospital than a metropolitan cluster).

The cumulative values of the measures of size within strata represented the expected number of sample hospital clusters per stratum. These cumulative values were:

Strata	**Cumulative MOS**	**Actual number selected**
1. Metro Area, High Hispanic	12.29	12
2. Metro Area, Other	21.06	21
3. Nonmetro Area	3.65	4
Total	37.00	37

This assured the selection of: 12 clusters from stratum 1 with a roughly 30 percent chance of selecting 13; the selection of 21 clusters from stratum 2 with approximately a 6 percent chance of selecting 22; and the selection of 3 clusters from stratum 3 with an approximate 65 percent chance of selecting 4. A systematic sampling procedure with probability proportionate to the assigned measure of size was used to assure that the total number of sample hospital clusters was 37.

The table below summarizes the original and new sample distribution in terms of hospital clusters.

	Original	**New**
1. Metro Area, High Hispanic	7	12
2. Metro Area, Other	19	21
3. Nonmetro Area	4	4
	30	37

A.2.2.4 Sampling Rates Within Hospitals and the Self-Weighting Design

The National Pregnancy and Health Survey was designed to achieve as closely as possible a self-weighting and thus equal probability sample within the three sample strata. Nevertheless, there were occasions where it was necessary to depart from the self-weighting approach when setting the sampling rates for women within hospitals. This section discusses the theoretical approach for setting the "within hospital" sampling rates based on the self-weighting design, identifies the occasions where departures were necessary, and indicates what steps were taken, when possible, to help compensate for increases in sampling variability that arose from these departures.

The Components of the Probability of Selection in the Self-Weighting Design

There are three main components to the overall probability of selection of a woman delivering a live birth in a sample hospital in a particular 365-day time period:

(1) The probability of selection of the hospital.

(2) The proportion of days out of a 365-day time period for which mothers were selected for the survey.

(3) The sampling rate of mothers within the time period during which survey interviews were conducted in a particular hospital.

There was also an additional factor to consider: Interviewers were given 2 days off each week, either Friday and Saturday or Sunday and Monday. This was handled in the following way. In approximately half of all sampled hospital clusters, the interviewer was given Friday and Saturday off while in the other half Sunday and Monday were off-days. Because of operational constraints, the assignment of days off was not completely random. However, use of this procedure did result in Friday, Saturday, Sunday, and Monday occurring as interviewing days with roughly half the frequency of Tuesday, Wednesday, and Thursday. Thus, a "day of week" weighting factor (called f_{ijkq} below) was incorporated as part of the base sample weight to reflect the undersampling of those 4 days. This aspect of the weighting meant that the self-weighting design could only be achieved within the 2 "days of the week" groups (Friday through Monday and Tuesday through Thursday).

All of the individual measures associated with the probability of selection will first be defined. Then the three main components of the probability of selection will be discussed separately. The individual measures are defined as follows:

m_i = number of hospital clusters targeted for selection in stratum i

S_i = number of births in stratum i in 1989

b_{ij} = number of births in cluster j in stratum i in 1989

e_{ijk} = number of days in which hospital k in cluster j in stratum i was eligible for sampling (including scheduled interviewers' days off but excluding sick days or other days off obtained with permission).

d_{ijk} = number of days in which hospital k in cluster j in stratum i was sampled (generally targeted as 25 days in metropolitan hospitals and 17 in nonmetropolitan hospitals)

a_{ijk} = adjustment to the within-hospital sampling rate, usually made because the expected yield in sample births was inordinately large or small based on projections using data more current than 1989

f_{ijkq} = day of week factor
= 1 if day q, the day on which a sample of mothers was interviewed, was Tuesday, Wednesday, or Thursday
= 2.0853 for Friday
= 2.2627 for Saturday
= 1.8219 for Sunday
= 1.8169 for Monday

The factor f_{ijkq} was computed as the ratio of the number of, say, Fridays that were eligible for inclusion in the sample to the number actually included. The values are approximately 2, but depart slightly due to the need to accommodate operational and interviewer needs.

Component 1. Probability of Selection of a Hospital Cluster

A cluster of one or more hospitals was considered as a single entity for sampling purposes. Hospitals were grouped, if necessary, so that a minimum number of births would be expected within a given time period (25 days in metropolitan clusters, 17 days in nonmetropolitan clusters) from a specified cluster of hospitals that were in the same general vicinity. Thus, all hospitals in a cluster had the same probability of selection. Different sampling rates were used to select clusters from the three sample strata established to permit oversampling of Hispanics in the survey. The measure of size associated with a hospital cluster was the total number of births in all the individual member hospitals in 1989.

The probability of selection of cluster j from stratum i was:

$$p_{1ijk} = \frac{m_i \, b_{ij}}{S_i}$$

If a hospital dropped out of the survey and a replacement was sought, the value of b_{ij} associated with a given cluster was the sum of 1989 births for all participating hospitals (including any substitutes) in that cluster.

Component 2. The Proportion of Days Out of a 365-Day Period Represented by the Duration of the Survey in a Hospital Cluster

In general, if interviews were conducted in a hospital cluster over a period of more than 32 days, then the proportion representing this component of the probability of selection would be $\frac{32}{365}$. The value 32 would include all scheduled days off (i.e., Fridays and Saturdays or Sundays and Mondays), since a special weighting factor was included to account for these days. As the first and last days of an interviewing period were only half-day sessions, they count as only one full day (thus, in the example, interviewing would be conducted over a 33-day period, where the first and last days account for a half-day each). If an interviewer became sick or took days off other than the scheduled days, these days were not included in the total number of days associated with the interviewing period.

The probability of selection of the cluster of days (numbering e_{ijk}) during which a hospital k in cluster j in stratum i was available for survey purposes can be represented by:

$$p_{2ijk} = \frac{e_{ijk}}{365}$$

Component 3. Sampling Rate of Mothers within a Given Hospital Cluster and Time Period

The sampling rate r_{ij} that would achieve a self-weighting sample in a metropolitan hospital cluster j in stratum i (ignoring the day-of-the week factor) for a 25-day period is

$$r_{ij} = \frac{\frac{85}{25}}{\frac{b_{ij}}{365}} = \frac{\text{3.4 (targeted sampled births per day)}}{\frac{b_{ij}}{365}}$$

The 25-day period was determined because interviewing mothers of 3.4 sampled deliveries per day was a reasonable workload for an interviewer. (In nonmetropolitan hospitals the corresponding ratio used was 56 sampled deliveries desired in 17 days or $\frac{56}{17} = 3.3$). However, because the observed births vary over time and because the 1992 deliveries were not perfectly correlated with the numbers of 1989 deliveries used as measures of size, the strict use of r_{ij} would have occasionally resulted in unreasonable interviewer workloads. Accordingly, adjustments were sometimes made to the number of days spent at a particular hospital or the rate r_{ij} was modified so that targeted sample sizes could be obtained while interviewers were neither severely overburdened nor underutilized within their schedule time in that hospital.

If the complications associated with specified days off are ignored (so that we would have $e_{ijk} = d_{ijk} = 25$, in the case of metropolitan hospitals, and $f_{ijkq} = 1$), the overall probability of selection p_i for a mother would be obtained from,

$$p_i = \frac{m_i b_{ij}}{S_i} * \frac{e_{ijk}}{365} * \frac{\frac{85}{25}}{\frac{b_{ij}}{365}}$$

$$= 85\left(\frac{m_i}{S_i}\right) \qquad \text{[assuming } e_{ijk} = 25\text{]}$$

Thus, every mother in the same stratum i would have the same weight. (The initially determined within-hospital sampling rate r_{ij} was chosen to achieve this result, and thus the sample would be "self-weighting".) However, as mentioned earlier, the number of births in a hospital varies both by time of year and from year to year. Hence, a sampling rate based on 1989 data might not be appropriate at the time the hospital was scheduled to be visited in 1992 or 1993.

The procedure for determining the within-hospital sampling rate was:

(1) Compute the sampling rate r_{ij} as defined previously that would yield a self-weighting sample assuming that the number of births per day in 1989 was similar to that expected during the survey period.

(2) Project the number of births expected for the hospital during the time period scheduled for data collection, based on the number of births for the 3 to 6 months just prior to the visit and for that same period in the previous year. (The period of time varied between 3 and 6 months, depending upon the information the hospital could provide.)

(3) Apply the rate r_{ij} to the expected number of births for the visit to determine if the sample yield of women could be expected to be approximately the targeted yield.

(4) If so, the rate r_{ij} was used for sampling purposes.

(5) If not, the rate r_{ij} was adjusted, up or down, to get roughly the targeted yield (or more) without inordinately increasing the variability of the sample estimates.

The decision of how much to adjust the sampling rate depended upon whether the expected sample yield was too low or too high. If the expected yield was too low, increasing the sample rate to obtain an expected yield of 85 (or 56, if it was a nonmetropolitan hospital) would result in increased sampling variability associated with varying sample weights. However, this increase in the sampling rate would also increase sample size, thus reducing sample variance. The increase in sample size in such situations served to offset the increase in variance due to the more variable sample weights.

If the expected yield was too high, a reduction in the sampling rate would result in a reduction in sample yield as well as a departure from a self-weighting sample (and thus increased variability due to differential sample rates). An adjustment of some sort had to be made because usually an interviewer could not reasonably cope with an increased workload due to a high sampling rate. The adjustment may have taken the form of a decrease in the sampling rate or a decrease in the rate accompanied by an increase in the number of days visiting the hospital so that the size of the rate decrease could be minimized. If the expected sample yield for a hospital cluster with more than one hospital was above 85, this would sometimes be tolerated as the number of persons to interview within any hospital would generally be below 3.4, (since, for example in metropolitan hospitals, the targeted sample size of 85 is for all hospitals combined that make up the cluster). Consequently, the sampling rate within a hospital might not have been lowered (or only lowered a marginal amount) if the increase in sample size could be afforded.

If there was a desire to reduce the number of days in a given hospital (because the sample yield was expected to be higher than was needed or to help reduce survey costs), the sampling rate, and thus the expected sample yield, was increased to help offset the expected increase in sample variation. This increase in sample variation would be due to a reduction in the proportion of days of a year being selected (the second component of the overall probability of selection) for the survey period.

Sometimes sampling rates were adjusted while the survey was actually being conducted, if the sample yield represented an unexpectedly large deviation from the expected yield based on 1992 data. The sampling rate ultimately associated with a hospital was then a pooled estimate, reflecting the different sampling rates and the number of days each was applied.

The probability of selection of women giving birth in hospital k of cluster j in stratum i on day q in a metropolitan hospital could then be represented as

$$p_{3ijkq} \quad = \quad a_{ijk} * \frac{\frac{85}{d_{ijk}}}{\frac{b_{ij}}{365}} * \frac{1}{f_{ijkq}}$$

$$= \quad a_{ijk} * \frac{365*85}{b_{ij}d_{ijk}f_{ijkq}}$$

Here $a_{ijk} = 1$, unless an adjustment to the initially set rate r_{ij} was made.

If we let r'_{ij} represent the within hospital sampling rate actually used in cluster j of stratum i, we can represent p_{3ijk} as

$$p_{3ijk} \quad = \quad \frac{r'_{ij}}{f_{ijkq}} .$$

Overall Probability of Selection

The overall probability of selection p_{ijkq} of a woman in hospital k in hospital cluster j in stratum i on day q can be represented as the product of the three probability components just discussed:

$$
\begin{aligned}
p_{ijkq} &= p_{1ijk} * p_{2ijk} * p_{3ijk} \\
&= \frac{m_i b_{ij}}{S_i} * \frac{e_{ijk}}{365} * \left(a_{ijk} * \frac{\frac{85}{d_{ijk}}}{\frac{b_{ij}}{365}} \right) * \frac{1}{f_{ijkq}} \\
&= 85 \frac{m_i}{S_i} * \frac{e_{ijk}}{d_{ijk}} * \frac{a_{ijk}}{f_{ijkq}}, \text{ or in terms of } r'_{ij} \\
&= \frac{m_i b_{ij}}{S_i} * \frac{e_{ijk}}{365} * \frac{r'_{ij}}{f_{ijkq}}
\end{aligned}
$$

A.3 Data Collection Rates

This section summarizes the data collection rates for the samples of hospitals and individuals selected for the survey. For individuals these include questionnaire response rates (section A.3.2), urine testing rates (section A.3.3), medical records abstracting rates (section A.3.4), and hair collection rates (section A.3.5). Also discussed are the reasons for nonresponse and potential bias due to nonresponse.

A.3.1 Hospital Response Rates

The sample included 37 hospital clusters, representing 60 individual hospitals. Attempts to recruit these hospitals for the study resulted in 39 participants (65.0 percent). (See table A-2.) Of the 21 hospitals that refused participation, 13 (61.9 percent) were replaced from 19 additional hospitals approached for participation, using the substitution rules described in section A.2. According to these rules, a refusing hospital might not be replaced if it was part of a multiple hospital cluster and the dropped hospital represented a relatively small percentage of combined total annual births for the cluster. Under these criteria eight hospitals were not replaced, and the designated sample of women was obtained from the remaining hospitals in the clusters. These eight hospitals were relatively small; all of them had fewer than 900 births in 1989. They were generally located in the South and Midwest, with only one hospital in the Northeast and none in the West. The total number of respondents expected from the eight hospitals represented approximately 5 percent of the total expected survey respondents.

Ultimately, 52 individual hospitals participated in the survey. Exactly three-fourths of the participating hospitals were recruited from the original sample and the remainder were replacement hospitals. The original sample appeared to have a somewhat higher percentage of small hospitals than were included among the participating hospitals. For example, 61.7 percent of the original sample hospitals had fewer than 2,000 births, compared to 51.9 percent of the participating hospitals. (See table A-3.) This difference was mainly due to dropping the eight smaller hospitals without replacement. The original sample and participating hospitals were generally comparable in terms of their geographic distribution.

A.3.2 Questionnaire Response Rates

This section covers response rates for the Interviewer Administered Questionnaire (IAQ) and the Self Administered Questionnaire (SAQ), including overall response rates, response rates by race/ethnicity and age, and item nonresponse.

Table A-2. Summary of hospital response

Total originally selected hospitals	60
Participated	39
Percent of total originally selected hospitals (n=60)	65.0%
Refused	21
Percent of total originally selected hospitals (n=60)	35.0%
Hospitals that refused	
Replaced	13
Percent of total originally selected hospitals (n=60)	21.7%
Percent of refused (n=21)	61.9%
Not replaced	8
Percent of total originally selected hospitals (n=60)	13.3%
Percent of refused (n=21)	38.1%
Final Total participating hospitals	52
Originally selected hospitals	39
Percent of participating hospitals (n=52)	75.0%
Replacement hospitals	13
Percent of participating hospitals (n=52)	25.0%

Overall Response Rates

A total of 3,386 women were sampled from delivery logs in the 52 participating hospitals. (See table A-4.) Of these, 46 were found to be ineligible for the survey, as they spoke neither English nor Spanish. For the purposes of response rate calculations, the remaining 3,340 have been assumed to be eligible. (A small percentage may not have been eligible, in which case the response rates presented here may slightly understate the actual response rates.) Of the 3,340 considered eligible for the survey, 3,007 women (90.0 percent) were approached by an interviewer and asked to participate in the study. A total of 2,701 women (80.9 percent and 89.8 percent of those eligible and approached, respectively) actually completed the Interviewer Administered Questionnaire (IAQ), which was used to obtain background information on the respondents. The main reasons for nonresponse were refusal (6.7 percent and 7.4 percent of those eligible and approached, respectively) and missed (8.9 percent of those eligible). "Missed" subjects were those who were discharged before the interviewer could contact them. In about 2 percent of the cases, nonresponse was due to hospitals barring access to the patient or because of a language problem (i.e., the interviewer assigned to a given hospital did not speak Spanish). The designation "language problem" was unique to Spanish-speaking subjects. In those hospitals where a bilingual interviewer was not assigned, sample women who had insufficient facility in English to complete the interview were considered eligible but classified as nonrespondents.

Table A-3. Comparison of originally selected with participating hospitals on hospital size and geographic location

Characteristics	Originally selected hospitals		Participating hospitals	
	Number	Percent	Number	Percent
Hospital size (annual births)				
Less than 1,000	25	41.7	18	34.6
1,000 - 1,999	12	20.0	9	17.3
2,000 - 2,999	12	20.0	14	26.9
3,000 or more	11	18.3	11	21.2
Total sample	60	100.0	52	100.0
Geographic location (census region)				
Northeast (ME, VT, NH, NY, MA, CT, RA, NJ, RI)	12	20.0	11	21.2
Midwest (ND, SD, NE, KS, MN, IA, MO, WI, IL, MI, IN, OH)	16	26.7	12	23.1
South (TX, OK, AR, LA, KY, TN, MS, AL, WV, VA, NC, GA, SC, FL, MD, DE, DC)	19	31.7	16	30.8
West (WA, OR, CA, MT, ID, WY, NV, UT, CO, AZ, NM, AL, HI)	13	21.7	13	25.0
Total sample	60	100.0	52	100.0

The Self Administered Questionnaire (SAQ) was used to collect information on substance use. A total of 2,613 women, or 96.7 percent of those completing the IAQ, also completed the SAQ; this represented 78.2 percent and 86.9 percent, respectively, of those eligible and approached. The additional SAQ refusals increased the overall survey refusal rate from 6.7 percent to 8.6 percent of the eligible women, while total nonresponse due to the other reasons rose slightly from 12.4 percent to 13.2 percent of those eligible. As substance use during pregnancy was the focus on the NPHS, additional review of questionnaire response rates will center on the SAQ.

Table A-4. Summary of interview response

Interview Category	Number	Percentage of total eligible sampled	Percentage of eligible approached	Percentage completing IAQ
Total sampled	3,386			
Total identified as ineligible	46			
Total eligible sampled[1]	3,340	100.0		
Total eligible subjects approached	3,007	90.0	100.0	
Interviewer-administered questionnaire (IAQ)				
Complete	2,701	80.9	89.8	
Refused	223	6.7	7.4	
Missed (not approached)	296	8.9	---	
Hospital barred access (not approached)	37	1.1	---	
Language problem[1]	28	0.8	0.9	
Other nonresponse	55	1.6	1.8	
Total nonresponse	639	19.1	10.2	
Self-administered questionnaire on substance use (SAQ)				
Complete	2,613	78.2	86.9	96.7
Refused SAQ, but completed IAQ	63			2.3
Total refused	286	8.6	9.5	---
Missed	296	8.9	---	---
Hospital barred access	37	1.1	---	---
Language problem[2]	28	0.8	0.9	---
Other nonresponse to SAQ, completed IAQ	25			1.0
Total other nonresponse	80	2.4	2.7	---
Total nonresponse	727	21.8	13.1	3.3

[1] A small percentage of these may have been ineligible, as 334 were either missed or the hospital barred access to the mother and, thus, eligibility could not be definitely ascertained. For these computations, all 334 are assumed to be eligible and, thus, these response rates may be slightly smaller than the actual response rates.

[2] Spanish-speaking subjects only.

Response Rates by Race/Ethnicity and Age

Weighted chi-square analysis was used to determine whether the distribution of the proportions of women responding to the SAQ was independent of race/ethnicity or age group, when compared with the distribution of nonrespondent women (table A-5). For the overall distribution, a significant association of the proportions responding and not responding was found with race/ethnicity (p=.0085), and with age group (p=.0398). Within age groups, the distributions of respondents and nonrespondents also were associated with race/ethnicity among those under age 25 (p=.0105).

Table A-5. Weighted response rates for the questionnaire on substance use, by age and race/ethnicity[1]

Age in years	Race/ethnicity					
	White, non-Hispanic	Black, non-Hispanic	Hispanic	Other[2]	Total	Race/ethnic distribution[3] (p-value)
Under 25	93.2	95.8	86.0	96.9	92.2	0.0105
25-29	91.4	93.3	83.7	95.9	90.5	0.1832
30 and older	89.7	88.0	76.6	84.5	87.7	0.1516
Total	91.3	93.5	83.2	92.3	90.3	0.0085
Age distribution[3] (p-value)	0.1218	0.1261	0.0717	0.2681	0.0398	

[1] This analysis includes 3,340 persons with known eligibility who were sampled.

[2] Includes Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

[3] Chi-square test of independence. P-value is the attained significance level.

Additional analyses were conducted to help understand the reasons for observed differences among the race/ethnic groups in response rates. These analyses revealed that Hispanics experienced a 4.2 percent rate of nonresponse due to language problems. (See table A-6.) This problem arose because Spanish-speaking interviewers were unavailable at some hospitals, and it is the major reason that Hispanics had lower observed response rates than other race/ethnic groups. However, most of the women who spoke only Spanish were interviewed.

Item Nonresponse

Item nonresponse was modest for key questionnaire items. Responses were examined for questions on the use of marijuana, crack cocaine, alcohol, and cigarettes during each of five periods on which respondents reported use (i.e., 3 months before pregnancy, first trimester, second trimester, third trimester, and last 3 days). The item nonresponse rates, which were all under 2.0 percent, tended to be similar within a time period, regardless of substance, but varied somewhat over time periods for a given substance. (See table A-7.) For example, while the **largest** range for a time period (3 months before pregnancy) was 0.5 percent, the **smallest** range across time periods for a given substance (alcohol) was 0.8 percent. Starting with the first trimester, item nonresponse increased for later time periods — congruent items that appeared later in the questionnaire — for any given substance. The reasons for this pattern were unclear, as were the reasons for the higher rates of nonresponse found for the period 3 months prior to pregnancy, compared to the first trimester.

Table A-6. Response to questionnaire on substance use, by response category and by race/ethnicity: Number of subjects and percent distribution

Response category	Race/ethnicity											
	White, non-Hispanic		Black, non-Hispanic		Hispanic		Other		Unknown		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Complete	1,530	80.1	502	85.2	495	74.8	85	84.2	1	1.3	2,613	78.2
Refusal	159	8.3	35	5.9	64	9.7	7	6.9	21	26.9	286	8.6
Missed	157	8.2	36	6.1	53	8.0	4	4.0	46	59.0	296	8.9
Hospital barred access	21	1.1	7	1.2	5	0.8	1	1.0	3	3.8	37	1.1
Language problem [1]	0	0.0	0	0.0	28	4.2	0	0.0	0	0.0	28	0.8
Other reason	43	2.2	9	1.5	17	2.6	4	4.0	7	9.0	80	2.4
Total	1,910	100.0	589	100.0	662	100.0	101	100.0	78	100.0	3,340	100.0

[1] Spanish-speaking subjects only.

Table A-7. Questionnaires[1] with missing responses on use of selected substances, by time period covered by question

Substance	Time period covered									
	3 months before pregnancy		First trimester		Second trimester		Third trimester		Last 3 days	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Marijuana	21	0.8	7	0.3	26	1.0	30	1.2	40	1.5
Crack cocaine	23	0.9	8	0.3	27	1.0	30	1.2	34	1.3
Alcohol	19	0.7	9	0.3	28	1.1	29	1.1	30	1.1
Cigarettes	10	0.4	6	0.2	27	1.0	27	1.0	29	1.1

[1] Completed questionnaires on substance use, n = 2,613.

A.3.3 Urine Specimen Test Rates

This section reports separately on the test rates for the nonblinded and blinded urine specimens.

Nonblinded Urine Tests

All 52 survey hospitals allowed nonblinded testing of urine specimens, that is, with the consent of the woman. Because women were asked consent for urine testing only after they completed the SAQ, nonblinded testing applied only to SAQ respondents. A total of 2,461 SAQ respondents consented to nonblinded testing (94.2 percent). (See table A-8.) Interviewers reported that 1,856 specimens were collected (55.6 percent of those eligible). After eliminating urine specimens for which consent was not obtained and specimens with insufficient volume, 1,178 nonblinded specimens were tested (for 45.1 percent of those completing the SAQ).

Table A-8. Summary of urine specimen collection and nonblinded testing for 52 survey hospitals

Total eligible sampled	3,340
Urine specimens	
Specimens collected in all hospitals	1,856
Percent of total eligible sampled	55.6%
Completed questionnaire on substance use (SAQ)	2,613
Percent of total eligible sampled	78.2%
Consented to test of specimen	2,461
Percent of total eligible sampled	73.7%
Percent of those who completed SAQ	94.2%
Specimens tested [1]	1,178
Percent of those who completed SAQ	45.1%
Percent of those who consented to testing	47.9%

[1] After loss of specimens due to inadequate volume. Sufficient volume often was unavailable for both blinded and nonblinded portions.

The greatest loss of nonblinded urine test results occurred because specimens were not collected. In addition, a substantial number (perhaps 600) of tests were not done because insufficient urine was available to complete nonblinded testing, particularly in those hospitals that allowed both blinded and nonblinded testing. A certain minimum amount of urine was required for testing. If an inadequate volume of urine was collected, priority was given to blinded testing. About halfway through the data collection period, the guidelines for the amount of urine needed for the blinded portion was reduced from 30 to 15 milliliters. This somewhat increased the number of nonblinded specimens available for testing, but not appreciably.

The testing rates appeared to differ by race/ethnicity and age. The observed rates, computed using unweighted data, were highest for whites (49.4 percent) and lowest for Hispanics (38.0 percent); and blacks (38.6 percent). (See table A-9.) Test rates were lowest for the under age 25 group (42.2 percent) and increased with each older group; the rate for the age 30 and older group was 49.4 percent.

Weighted chi-square analysis was used to determine whether the distribution of the proportions of women with nonblinded test results was independent of race/ethnicity or age group, when compared with the distribution of women without test results (table A-10). For the overall distribution, a significant association of the proportions tested and not tested was found with race/ethnicity (p=.0003), but the distributions did not appear to be associated with age group (p=.4610). Within age groups, proportions with and without test results also were associated with race/ethnicity among those 30 years and older (p=.0217).

Additional analyses found that the lower nonblinded urine testing rates for blacks and Hispanics were not due to percentage consenting, when compared to the consent rate for whites. These groups had very similar percentages who consented to testing (92.0 percent for blacks, 93.9 percent for Hispanics, and 94.9 percent for whites). Rather, the most important reason for the difference in testing rates was that higher proportions of blacks (48.4 percent) and Hispanics (36.8 percent) than whites (23.6 percent) in the sample were obtained from large hospitals, which tended to have the lowest urine collection rates.

Table A-9. Numbers of subjects and unweighted percentages of sample with nonblinded urine test results, by age and race/ethnicity[1]

	Race/ethnicity									
	White, non-Hispanic		Black, non-Hispanic		Hispanic		Other[2]		Total	
Age in years	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 25	222	46.0	103	38.0	103	39.2	17	45.9	445	42.2
25-29	216	48.3	44	37.0	44	36.1	9	45.0	313	44.2
30 and older	319	53.1	47	42.0	41	37.3	13	46.4	420	49.4
Total	757	49.4	194	38.6	188	38.0	39	45.9	1,178	45.1

[1] Total base for this table is 2,613 respondents to questionnaire on substance use.

[2] Includes Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

Blinded Urine Tests

Of the 52 participating hospitals, 47 allowed blinded testing of urine specimens. The other five hospitals had concerns about testing for drugs without the woman's consent, and they declined to participate in the blinded procedure. However, these five hospitals did allow the nonblinded testing with consent.

Table A-10. Weighted percentages of sample with nonblinded urine test results, by age and race/ethnicity

	Race/ethnicity					
Age in years	White, non-Hispanic	Black, non-Hispanic	Hispanic	Other [1]	Total	Race/ethnic distribution[3] (p-value)
Under 25	47.7	37.7	36.7	46.6	43.1	0.0842
25 - 29	49.1	41.0	32.3	51.5	45.4	0.0537
30 and older	49.8	41.1	31.9	44.9	46.9	0.0217
Total	48.9	39.2	34.5	47.2	45.0	0.0003
Age distribution[3] (p-value)	0.8540	0.8198	0.6665	0.9146	0.4610	

[1] Total base for this table is 2,613 respondents to questionnaire on substance use.

[2] Includes Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

[3] Chi-square test of independence. P-value is the attained significance level.

Tests were done for all women in the sample for whom specimens were available, without seeking the consent of the women and regardless of whether women completed the SAQ. Specimens were collected from 1,642 of the eligible subjects in the 47 hospitals (55.8 percent of those eligible in these 47 hospitals) and 1,622 specimens were tested (55.1 percent of those eligible). (See table A-11.)

Table A-11. Summary of blinded urine specimen collection and testing for 47 participating hospitals

Total eligible sampled	2,943
Urine specimens	
Specimens collected	1,642
Percent of total eligible sampled	55.8%
Specimens tested [1]	1,622
Percent of total eligible sampled	55.1%

[1] After loss due to insufficient volume of urine for testing.

Weighted estimates from blinded urine testing were based on the blinded test results for women sampled from the 47 hospitals that allowed blinded testing combined with the nonblinded test results for SAQ nonrespondents from the 5 hospitals that did not participate in blinded testing. The reasons for including nonblinded test results in the blinded testing data base are discussed in section A.10. Adding the nonblinded results from the 5 hospitals increased the sample base from 2,943 to 3,243 women and the available test results from 1,622 to 1,789. The overall percentage of subjects with test results remained at about 55 percent when the nonblinded results from the five hospitals were added.

Discussion of test rates for blinded testing is framed in terms of the total 1,789 test results for 3,243 women used in the weighted estimates. Distributions of the unweighted data by race/ethnicity and age suggested that test results were more often available for whites (60.2 percent) than for blacks (50.3 percent) or Hispanics (46.0 percent) (table A-12). Younger women seemed to have been less likely than older women to have test results. For example, 51.4 percent of women under 25 had test results, as opposed to 53.9 percent of women age 25 to 29 and 60.9 percent of those age 30 and older.

Weighted chi-square analysis was used to determine whether the distribution of women with blinded test results was independent of race/ethnicity or age group, when compared with the distribution of women without test results (table A-13). For the total distribution, a significant association of the proportions tested and not tested was found with race/ethnicity (p=.0001), and with age group (p=.0397). Within age groups, proportions with and without test results also were associated with race/ethnicity among those in all three age groups (from the youngest to oldest groups, the representative significance levels were p=.0021, p=.0154, and p=.0136).

As noted earlier for the nonblinded test rates, relatively higher proportions of blacks and Hispanics were selected from large hospitals, which had the lowest specimen collection rates. This aspect largely accounted for the lower test rates in these groups.

Table A-12. Numbers of subjects and unweighted percentages of sample with blinded urine test results, by age and race/ethnicity [1]

	Race/ethnicity									
	White, non-Hispanic		Black, non-Hispanic		Hispanic		Other[2]		Total	
Age in years	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 25	348	56.4	157	51.5	135	43.0	13	37.1	653	51.4
25-29	339	58.3	76	46.9	75	45.7	14	50.0	504	53.9
30 and older	474	64.8	64	51.6	75	52.8	19	47.5	632	60.9
Total	1,161	60.2	297	50.3	285	46.0	46	44.7	1,789	55.2

[1] Total base is 2,926 persons for original 47 hospitals that participated in the blinded study, and supplemented base representing all 52 study hospitals is 3,243 persons.

[2] Includes Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

A.3.4 Medical Records Abstracting Rates

Consent for abstract and review of the mother's and infant's medical records was requested from each SAQ respondent. Of the women who completed the SAQ, 92.4 percent agreed to the abstract of their medical records and their infants' medical records (table A-14). Medical record abstracts were actually received for 2,413 of the women (92.3 percent of those completing the SAQ). These numbers and percents were very similar for the infant record abstracts.

Table A-13. Weighted percentages of sample with blinded urine test results, by age and race/ethnicity[1]

Age in years	Race/ethnicity White, non-Hispanic	 Black, non-Hispanic	 Hispanic	 Other[2]	 Total	 Race/ethnic distribution [3] p-value
Under 25	60.2	52.9	42.6	38.4	54.3	0.0021
25-29	60.9	51.6	44.6	48.0	56.6	0.0154
30 and older	64.7	49.9	53.1	45.4	61.1	0.0136
Total	62.1	51.8	45.5	43.7	57.1	0.0001
Age distribution [3] p-value	0.2490	0.8459	0.1554	0.8135	0.0397	

[1] This analysis is based on a supplemented sample of 3,243 persons. See text for discussion of sample composition.

[2] Includes Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

[3] Chi-square test of independence. P-value is the attained significance level.

Table A-14. Summary of medical records collection

Total eligible sampled	3,340
Completed questionnaire on substance use (SAQ)	2,613
Percent of total eligible sampled	78.2%
Mother abstract	
Consented to abstract	2,415
Percent of total eligible sampled	72.3%
Percent of those who completed SAQ	92.4%
Abstract received	2,413
Percent of total eligible sampled	72.2%
Percent of those who completed SAQ	92.3%
Percent of those who consented to abstract	99.9%
Infant abstract	
Consented to abstract	2,414
Percent of total eligible sampled	72.3%
Percent of those who completed SAQ	92.4%
Abstract received	2,414
Percent of total eligible sampled	72.3%
Percent of those who completed SAQ	92.4%
Percent of those who consented to abstract	100.0%

A.3.5 Hair Specimen Collection Rates

Hair specimens were collected from subjects in six participating hospitals and shipped to a laboratory for future testing. The hospitals were recruited from a subsample of the 30 hospitals selected for the Feasibility Study. A total of 420 eligible women were sampled for survey participation. (See table A-15.) Of those eligible, 391 women (93.1 percent) were approached by study staff and asked to participate in the survey including the hair testing component. Approximately 83.8 percent of the eligible women agreed to participate. Specimens were obtained for only those women who completed both questionnaires. Hair specimens were received and shipped to a laboratory for 349 of those eligible (83.1 percent).

Table A-15. Summary of hair specimen collection for six study hospitals

Total eligible sampled	420
Total subjects approached	391
Percent of total eligible sampled	93.1%
Consented to test of specimen	350
Percent of total eligible sampled	83.3%
Specimens shipped to laboratory	349
Percent of total eligible sampled	83.1%

A.4 Survey Data Forms

The National Pregnancy and Health Survey collected diverse types of information from a number of different sources using a variety of forms. Questionnaires were used to obtain information from mothers on their background characteristics and substance use. Abstract forms were designed to collect medical and demographic information from the medical records of these mothers and their infants. In addition, brief abstract forms were used to obtain a few items of demographic information from the hospital records for questionnaire nonrespondents and for all women in the blinded testing sample.

Because they are more central to the primary objective of NPHS than the abstract forms, the questionnaires will be emphasized. This section describes initial development of the data forms (A.3.1), how the data forms were pretested and pilot tested (A.3.2), preparation of Spanish-language versions of the materials (A.3.3), and internal consistency and data quality of the questionnaires (A.3.4). Copies of the questionnaires, the abstracts, and other survey forms are provided in appendixes E and F.

A.4.1 Development of Data Forms

The NPHS used two different questionnaires and two different record abstract forms. The Interviewer Administered Questionnaire (IAQ), was used to collect obstetric and demographic information on mothers. As the name implies, the IAQ was completed by trained interviewers.

The second questionnaire, the Self Administered Questionnaire (SAQ), was designed to collect information on maternal substance use. Completion of this questionnaire by the subject, which allowed concealment of responses from the interviewer, was intended to promote a high response rate and accurate responses. This approach also relieved interviewers from the obligation to report substance use by the subject during pregnancy to local authorities, which was mandatory in some jurisdictions.

The mother's record abstract form and infant's record abstract form were used to collect information for satisfying a secondary objective of the survey, examination of the relationship between prenatal drug use and two birth outcomes (birthweight and length of hospital stay). This objective is not discussed in this report. Some information was abstracted by the interviewers while at the hospital. To provide the remaining data, designated medical record forms were photocopied at the hospital and mailed to the home office for abstracting.

Content of Data Forms

The obstetric history collected in the IAQ covered past pregnancies and the current pregnancy. Questions were included on pregnancy outcome, birthweight, prenatal care, weight gain during pregnancy, maternal stature, and gestational age, which were designed to identify risk factors for adverse outcomes of the current pregnancy. A series of questions established the date of conception to define the trimesters of pregnancy.

The demographic section of the IAQ contained questions on respondent age, race, ethnicity, education, marital status, employment status, and income. These maternal variables had been identified previously as risk factors for low birthweight and illicit drug use. The income questions were in the same format that SAMHSA intended to use on questionnaires for future surveys; these questions differ from those that have been used in past NIDA or SAMSHA Household Surveys on Drug Abuse.

The SAQ dealt with the mother's use before and during pregnancy of cigarettes, alcohol, illicit drugs, and prescription amphetamines, tranquilizers, sedatives, and analgesics. The format of this questionnaire was structured into defined time periods, and the woman was asked about use of certain substances during each time period. In addition, questions about the receipt of treatment for substance use problems were included. Certain questions were designed to provide data that might be compared to data collected on the general population of women of child-bearing age in other surveys. These included, for example, questions on the lifetime use of certain substances.

The mother's medical record abstract form captured information on her demographic characteristics, admission and discharge diagnoses, delivery, and chronic diseases. Information was also collected on the results of urine toxicological screens conducted during the pregnancy and on medical conditions, infections, and diagnoses during pregnancy. The infant's record abstract form was used to gather information on its demographic characteristics, birth, and discharge, and results of a first urine toxicology screen.

Development of Forms

Several steps were followed in developing the data forms. First, variables to be used in analysis were listed. For the record abstract forms, the Co-Principal Investigators and advisors provided a list of key variables on which information might be available in medical records. Second, several existing forms were reviewed before preparing the first drafts. Questionnaires reviewed included those used in the NIDA and SAMSHA National Household Surveys of Drug Abuse, the National Maternal and Infant Health Survey (NMIHS), the National Survey of Family Growth, the Very Low Birthweight Environmental Surveillance Study, and the NYC Mother and Infant Cohort Study. Abstract forms used in the NMIHS and forms in use by several hospitals were reviewed. In preparing the data forms, a number of questions or abstract items commonly used in these other major surveys were incorporated into the NPHS forms to provide comparability across surveys.

The advisory committee, which was chaired by one of the Co-Principal Investigators, a pediatrician, reviewed the drafts of the study design and data collection instruments. The advisors recommended the inclusion of a number of additional data items, and made suggestions on formatting. Revised versions of the data forms were pretested on a preliminary site visit to a hospital that was to be included later in the formal pilot test.

The results of the informal pretests led to further revisions. After the questionnaires were submitted for DHHS and OMB review, the DHHS Assistant Secretary for Planning and Evaluation required additions or expansions to the demographic section, to include sources of income for household members and type of services received in prenatal care. A version of the IAQ containing these questions was pretested at a local obstetric clinic.

A.4.2 Pilot Test

A pilot test of the data collection forms and procedures was conducted after OMB granted initial clearance. This provided the opportunity to test the instruments with a larger number of subjects and under realistic field conditions. Further details are given in section A.5.1.

The pilot experience led to some refinements, but it affirmed that, in general, the data collection forms were suitable for use in the national survey. The key revisions identified from the pilot test are described next.

IAQ. During and after the pilot test, several revisions to the IAQ and procedures were made. These changes included the following.

- **Barriers to prenatal care.** The question that inquires about barriers to prenatal care, which was taken from the National Maternal and Infant Health Survey, had been truncated for the pilot version of the IAQ. The full text from the NMIHS was added because pilot test respondents misunderstood references to problems with health care providers.

- **Race/ethnicity.** Several women at one site were confused about what was meant by race and ethnicity. The questionnaire was revised to put the ethnicity question before the race question.

- **Household.** Interviewers became aware that the income questions, which were taken from more than one source, referred to more than one time period. The questions were standardized to refer to the household the respondent lived in the longest during the past 12 months.

- **Sources of payment.** The interviewer found that the mother's bill and the infant's bill were sometimes paid by different sources. Interviewer instructions were added to collect information on the mother's bill if the sources of payment for the mother's and baby's bills were different.

- **Income.** The interviewer and the respondents found the income questions difficult. To remedy this, additional interviewer instructions were added; a hand card was added with the printed list of the sources of income, and the wording was revised.

After completion of the pilot test, the data collected in the IAQ and from the hospital records were examined and compared. This comparison revealed that the respondent provided more complete information on previous pregnancies than was found in the medical record. The comparison also indicated good agreement between the respondents and the delivery log on estimated due date.

SAQ. The women appeared to understand the questionnaire on substance use and to make very few errors in the entry of their responses. Nonetheless, several changes were made to improve the data quality. These changes included the following:

- **Gestational age.** The gestational age was determined from the delivery log for use in setting a pregnancy wheel to define the date of conception and of each trimester for use in the SAQ. Instructions were added to ask the respondent for the due date estimated by the physician, if the delivery log did not contain gestational age. Instructions were also added to skip questions on gestational age unless the delivery log entry and the physician's due date were missing.

- **Printing.** The pages of the SAQ were printed back to back, with a different time period on each page. This gave the appearance of a shorter questionnaire to the respondent and made it easier for the interviewer to determine when the respondent needed to reorient herself to a new time period.

- **Introduction.** The introduction to the prescription drug section of the SAQ was simplified by removing the interviewer's instructions from the respondent's copy.

The question on "ever smoked" was changed to omit reference to a specific number of cigarettes (ever smoked 100 or more cigarettes) because it confused some respondents.

Medical Abstract Forms. The pilot test revealed that, for some abstract items, the information required was often unavailable in the medical records or difficult for the interviewer to interpret. Also, for some abstract items, the questionnaires provided better overall sources of information. Hence, several abstract form items were modified or deleted. The revised forms were shortened and simplified.

A.4.3 Spanish Translation of Questionnaires

Once the final version of the questionnaires was completed, the wording was translated into Spanish. Translation required several steps. First, experienced bilingual staff translated the English version into Spanish. Second, to check the fidelity of the translation, different bilingual staff translated the Spanish version back into English. Then, the original and translated English versions of the instruments were compared to identify areas that required clarification. Finally, the questionnaires were pretested with Spanish-speaking-only respondents. Subsequently, minor refinements were made.

A.4.4 Internal Consistency and Data Quality of Questionnaires

Post-survey analyses revealed inconsistencies in the responses of some subjects among the questions related to whether they had ever used specific substances and to drug use during the last trimester. Some subjects reported that they never used a drug (e.g., marijuana) in a general question, but then reported using this drug during one or more specific time periods. Similarly, some subjects reported that they had not used a specific drug during the third trimester, but then reported using this drug during the last 3 days before delivery. Both of these inconsistencies were accounted for in generating estimates from the data.

A.5 Data Collection

In this section, several features of data collection for the NPHS are described. These features include changes to the original data collection plan (A.5.2), recruiting interviewers (A.5.3), interviewer training (A.5.4), quality control training (A.5.5), field procedures (A.5.6), and quality control procedures (A.5.7). This section begins with a description of the pilot test.

A.5.1 Pilot Test

A pilot test of the data collection instruments and procedures was conducted after OMB granted clearance. It provided the opportunity to test the data forms with a large number of subjects and under realistic field conditions.

The pilot test had several objectives. These objectives included:

- To test the questionnaires for ease of use, length of time to complete, clarity of questions, and acceptability of questions to respondents;
- To test the abstract forms for ease of use, length of time to complete, and availability of the data in medical records;
- To assess patient response rates;
- To assess all operational procedures of the study;
- To identify issues in hospital staff cooperation; and
- To determine the feasibility of urine collection.

Five hospital clusters that included six individual hospitals were purposely selected to include metropolitan and nonmetropolitan hospitals, community and teaching hospitals, and private and government-owned hospitals. These hospitals were selected from the Northeast and Mid-Atlantic regions for convenience. The pilot sites were not included in the national survey sample. Four of the six hospitals agreed to participate in the pilot test. Based on the estimated number of deliveries per month in the past year and considering the expected number of excluded women who did not speak English or Spanish, the target was selection of 85 women in each of the two metropolitan hospitals, assuming 68 mothers would participate, and a combined total of 56 women in the 2 nonmetropolitan hospitals, assuming 45 respondents.

Sample selection, interview procedures, questionnaires, and memory aids designed for the survey (e.g., calendar and pill charts) were tested. The same procedures were followed in all four hospitals. Hair collection procedures also were tested in two of these hospitals. The women were approached after 12 hours following a vaginal delivery and after 48 hours following a cesarean delivery. The interviewer obtained verbal consent and proceeded with the questionnaires immediately, whenever possible. If requested, appointments were made for a later time. The interview took place in the subject's hospital room. If another patient was in the room, the interviewer attempted to create a private atmosphere by, for example, pulling the curtain between beds. The IAQ was completed before the SAQ.

Start and end times were recorded for each subject contact activity, including the time spent gaining verbal consent, completing each questionnaire, obtaining written consent, and collecting hair specimens. The total time spent with the women averaged about an hour when hair specimens were collected, and about 53 minutes otherwise. A total of 128 interviews were completed in the 4 pilot study hospitals.

Three quality control procedures were implemented in the pilot study. These procedures were: (a) scan edit by the interviewer of all data collection forms, (b) edit by a supervisor after data forms were received at the home office, and (c) tape recording of five interviews at each pilot site. In addition, the verification of the interview was obtained by asking each women to complete and return a postcard with information on the date, place, and length of the interview.

A.5.2 Changes to Original Data Collection Plan

The Feasibility Study, of which the pilot test was a part, led to modifications of several aspects of the original data collection plan for the NPHS, as well as a substantial reduction in scope. (See section A.2 for further discussion of design changes.)

The main factors from the Feasibility Study experience that contributed to changes in the design were highlighted in a report to NIDA. Foremost among these factors was the unexpected difficulty and time required in negotiations with hospitals. Hospital reluctance to participate in the NPHS most often centered on human subjects research issues or burdens on the hospital staff or patients. The human subjects research issues concerned the testing of subjects' urine after they had refused urine testing and the potential for accessing of confidential data on illicit drug use by outsiders. Patient burden was a concern because many hospitals discharged patients having uncomplicated deliveries within 24 hours or so after delivery. During this time the patient had a very busy schedule that left little opportunity for participation in a survey. The expected burden on hospital nursing and medical staff was also a concern for a few hospitals.

From the Feasibility Study experience, the study team concluded that implementation of the national survey would be more costly and time-consuming than originally envisioned. A number of changes were identified that would make data collection more efficient and acceptable to the hospitals. Considering these factors and cost and scheduling constraints, after discussions with

NIDA, the following major revisions were made in the design and procedures for the national survey.

- **Reduce the scope of the survey.** The sample size was substantially reduced, and the sample of hospitals was redrawn to ensure inclusion of an adequate number of Hispanic respondents.

- **Develop more flexible data collection requirements.** Alternative approaches were defined for testing urine specimens for subjects from whom consent was not obtained, to satisfy hospital objections. The revised approach to a blinded study protocol was adopted from that used in Centers for Disease Control HIV surveillance studies.[c] This included revised procedures to provide greater assurance of anonymity for blinded test results.

- **Collect some additional data.** A few items of descriptive information were to be collected on subjects who refused the interview.

- **Reduce some data collection efforts.** The number of items included in the medical record abstract was reduced and the abstracting procedure was changed, to minimize the need for interpretation of medical record entries by the nonmedically-trained interviewers.

- **Extend the data collection period within each hospital.** The period of data collection in each hospital was extended a few days to allow additional time for hospital orientation, decrease the daily interview quota, and provide a second opportunity for medical record review.

- **Take measures to boost individual response rates.** Additional procedures aimed at increasing the collection rate of urine specimens by hospital staff were implemented. A monetary incentive was established for collection of hair specimens. The waiting time after delivery to contact subjects was decreased to reduce the number missed due to early discharge.

A.5.3 Interviewer Recruitment

Initially, potential field interviewers for the NPHS were identified from files on persons previously employed in interview surveys. Of the final total of 20 interviewers selected, 11 had previous experience with the contractor. The remaining interviewers were recruited through contact with other survey organizations and classified newspaper advertisements in cities with hospitals in the sample. Prospective interviewers were mailed a recruiting package containing information about the study and a standard practice questionnaire with instructions. All new interviewer candidates were screened for communication abilities by administering the questionnaire to a project supervisor. Spanish language interviewer candidates were screened by a bilingual staff member for their ability to communicate effectively in both Spanish and English. A total of seven of the interviewers recruited were bilingual in Spanish and English. Sixteen of the field staff were experienced interviewers.

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[c] Personal communication, CDC HIV Surveillance Program.

A.5.4 Interviewer Training

All interviewers working on the NPHS participated in a comprehensive training program. The training program was designed to achieve consistency in data collection through a standardized mix of techniques that used actual survey materials and focused heavily on trainee participation and practice. The techniques included home study, interactive lectures to the group, mock interviews and demonstrations, practice exercises, and role playing. Three training sessions were held. A thorough and explicit agenda was developed for each session to indicate the order of events, materials to be used, and topics to be covered. Presentations were reviewed in walk-throughs by the trainers prior to each training, so that the content and form of the information communicated could be controlled and made consistent among the different sessions.

Training sessions were conducted primarily by project staff. A consultant provided the bilingual interviewers with additional training to familiarize them with administering the Spanish-language version of the questionnaires. In addition, a nurse specializing in grief counseling met with each training group to provide guidance on dealing with women who experienced the loss of their child (after a live-born delivery), delivered a severely ill child, or had difficult deliveries.

All interviewers received the NPHS Field Interviewers Manual, which was prepared to provide detailed item specifications and descriptions of all procedures to be followed for each data collection component. The manual was designed to serve as both a training guide and a reference source during field work. New interviewer candidates arrived early to participate in a half-day general training curriculum on interviewing techniques and general field procedures.

At the end of training, the trainers evaluated the interviewers on their understanding and ability to carry out field procedures. All but one trainee received a hospital assignment immediately following training. Based upon their training evaluations, interviewers were then assigned a priority order for on-site observation by quality control supervisors.

A.5.5 Quality Control Training

Training sessions for persons to supervise field quality control (QC) were conducted following the completion of the first two interviewer training sessions. Two supervisors were trained at each session. All quality control supervisors had completed the interviewer training. The in-house field supervisor staff also attended the QC trainings.

Quality control training consisted of a thorough review of the procedures to be observed in on-site review, and instruction in completion of the QC Observation Form and on interaction with the interviewers and the hospital staff. QC supervisors were provided with the QC plan guidelines, including those for verification of sampling, abstracting, and nonresponse forms. Field and QC supervisors received instructions on using the site-specific information that would be shared with them prior to a QC visit, such as problems with the interviewer or hospital.

A.5.6 Field Procedures

Data collection encompassed several different steps and procedures. These procedures included previsit contacts with the hospitals, subject enrollment, interview, medical record abstraction, urine collection, and hair collection. Typically, one interviewer worked in each assigned hospital for 4 to 5 weeks to complete data collection. The field procedures are described in this section. Data were collected on a sample of women delivering in the period November 3, 1992 to August 18, 1993.

Pre-Visit Contact

Prior to initiation of data collection, a home office staff member contacted each hospital in the sample. The purpose was to confirm the schedule, to answer any further questions hospital staff may have had, and to resolve any remaining issues regarding patient contact, logistics of urine collection, and access to medical records.

Shortly before arriving at a hospital, the interviewer called the head nurse and other key personnel identified in prior contacts. Appointments were arranged with these hospital staff for the first day of the interviewer's visit to review data collection procedures. Orientation sessions were held with nursing staff to inform them about the survey.

Subject Enrollment

Hospital approval was sought to allow daily access by the interviewer to the delivery room log. The interviewer listed information on all women delivering live-born infants on a patient roster. The mother's name, hospital ID, and her assigned survey ID were entered, and the roster served as the link between the subject's name and hospital ID number and her survey ID number. The patient roster was formatted in a manner that indicated the specific women to be selected for the survey. A quality control system using an alternative source of patient records, such as admission records, was implemented to assure that the sample was being drawn from the complete list of live-born deliveries. The roster was kept separately from the survey data forms to preserve confidentiality. Entries on this roster were preserved until the medical record abstracts were received, or 30 days after the interviewer left the hospital, whichever came first.

After selecting the sample of names from the patient roster, the interviewer went to the obstetrics floor to locate those women. Study guidelines required waiting at least 6 hours to approach women after a normal vaginal delivery and 36 hours for women after delivery by cesarean section.

General hospital approval had been obtained to approach the women. However, at the time of initial approach, the interview was deferred if the hospital staff or the interviewer considered the women to be too ill or upset. Women who were found to speak neither English nor Spanish were excluded from the study. If the hospital was expected to have a high percentage of obstetrics patients who spoke only Spanish, a bilingual interviewer was assigned to the hospital and materials printed in Spanish were used. All sample women under legal age of consent were considered emancipated minors, and therefore parental consent was not sought. If the hospital or the study subject requested that parental consent be obtained, the interviewer attempted to do so or excluded the subject from the study.

Interview

After introducing herself and the purpose of her visit, the interviewer read statements explaining informed consent and gave the subject an introductory letter and brochure. These materials informed the subject about the purpose of the NPHS, its sponsorship, the types of information that would be collected, the fact that participation was voluntary and that no benefits would be lost if the women refused to participate. In addition, the subject was informed of the protection from disclosure provided by the Confidentiality Certificate. The interviewer also gave each woman an inexpensive gift for her newborn to help establish rapport.

The interviewer then sought verbal consent to conduct the interview. When possible, the interview was conducted as soon as consent had been obtained. However, if the woman was unwilling or unable to be interviewed at that time, the interviewer attempted to arrange a later appointment.

Participation in the study took between 50 to 60 minutes of the woman's time. The interview, which was conducted at bedside, took about 40 to 50 minutes to complete, with approximately equal time for completion of each of the two questionnaires. The first questionnaire was interviewer-administered. The second questionnaire, covering substance use, was in a separate booklet and was self-administered. When completed, this questionnaire was put in an envelope and the flap was sealed, so that the interviewer would not have access to the responses.

At the conclusion of the interview, a request was made for written consent to test the woman's urine specimen for illicit drugs, and to review, photocopy, and abstract the mother's and infant's medical records. In a subsample of hospitals, the women also were asked for written consent to collect and test a hair specimen for illicit drugs.

Medical Record Abstraction

In this study, the term "medical record abstraction" refers to the process of reviewing a medical chart to record selected items of information from the subject's past medical history and current pregnancy. Approval was sought from all participating hospitals to abstract certain information from the maternal and infant medical records, and to photocopy relevant parts of the records for later abstraction, with the consent of the mother. The interviewer abstracted some information from the medical records while at the hospital. The face sheet, admission history and physical or admission note, delivery room record, and discharge summary/note were photocopied and sent to the home office for abstraction. Personal identifiers on the records were blackened out before mailing.

The interviewer abstracted the initial information from the medical records on the obstetrics floor prior to discharge. One week or more after discharge, the interviewer again reviewed the record for additional data and photocopied the selected parts of the record. As the end of the data collection period at the hospital approached, the interviewer abstracted the records of all consenting subjects, whether or not the record for that admission was complete. If the records were not complete, the interviewer left a record abstract request form containing the women's study ID number and hospital number with the hospital medical records staff. Arrangements were made with the hospital to forward photocopies of the appropriate parts of these medical records. If the copies were not received at the home office within 2 weeks, a follow-up request was made. The link connecting the survey ID number and the subject's name and hospital ID number was destroyed when the copies were received, or 30 days after the interviewer left the hospital, whichever was earlier.

To assess if selection bias was present in the interview data, hospital approval was sought to obtain limited information on subjects who did not complete the interview: age, race, ethnicity (Hispanic or not), method of hospital payment, and infant gestational age and birthweight. These data were recorded in broad categories. No personal identifiers were entered on this data form. Interviewers obtained gestational age and birthweight from the delivery log prior to the interview. The remaining items were taken from the medical record. The hospital was offered the option of having their own staff or the interviewer abstract these remaining items.

Urine Collection

The approach designed for the NPHS was adapted from a procedure used by the Centers for Disease Control (CDC) in conducting HIV surveillance. At the time, CDC conducted "blinded" (anonymous, without consent) and "nonblinded" (with consent) testing for HIV, in parallel within the same medical care facility. The contractor's Institutional Review Board (IRB) examined the procedures for the blinded study and considered that they met the condition for exemption from seeking informed consent under Federal regulations.

Urine specimens collected routinely on all obstetric admissions by the survey hospitals were used for drug testing in both the blinded and nonblinded testing. The specimen was collected at the time of, or soon after, admission to the hospital and preferably before any medication was given. After urine needed for clinical tests had been poured off, the remainder was placed in an ice chest. The interviewer divided the remaining specimen for each subject into two portions, one for the blinded testing and one for the nonblinded testing. Specimens for persons who were not chosen for the survey were discarded.

The blinded test portion of the specimen was assayed for all sample women, without seeking their consent, using procedures to assure anonymity of the subject. A few demographic data items also were obtained for all sample women, and this information was linked to the blinded urine specimen test result when a specimen was available. In the nonblinded testing, the subject was approached for interview, and the second portion of the specimen was tested and linked with the questionnaires and the medical record abstract only if written consent was obtained. Otherwise, this portion of the specimen was discarded at the hospital.

Blinded study. The specimen portion intended for use in the blinded testing was labeled with a randomly generated ID number. A form for recording the demographic data items was labeled with the same ID number, and the hospital patient record number was entered on this form also. A code number embedded in the subject ID number used for the blinded study identified all subjects from the same hospital. Maintaining group identity for subjects chosen from the same hospital was necessary for statistical purposes. This code number differed from the regular survey hospital ID number.

The demographic data included age group, race, ethnicity (Hispanic or not), and method of payment for hospital care. These data were abstracted from the woman's medical record, usually on the same day as the person was selected for the survey from the delivery log. Age and payment method were recorded in broad categories. To provide the sampling interval for that day, the total number of eligible women in the delivery log and the number selected for the study sample were entered on the blinded study data form. When this was completed, usually within 24 hours after delivery, the hospital patient number was physically removed from the abstract form, so that the blinded test ID number could no longer be linked with an individual. Abstracting of the medical record and removal of the hospital record number could be done by hospital staff or the interviewer, as the hospital preferred. The blinded data form was sent to the home office. The blinded study specimen was shipped to the central testing lab, where the specimen was frozen until authorization for testing was received.

A list that related the hospital group code to the specific hospital was kept at the home office. When the interviewer completed work in a hospital, a record was prepared at the home office that contained the final sampling weights and some basic hospital characteristics (e.g., size category, type of ownership, and metropolitan/nonmetropolitan status) necessary for analysis. This record was identified only with the blinded study hospital code. After this sampling record was complete, the link between the blinded study group code and hospital identification was destroyed. The central lab was not authorized to test specimens with this group number until the link between the group number and the hospital name had been destroyed, which was done 30 days after the interviewer had completed work in the hospital.

Nonblinded study. In the nonblinded testing procedure, each woman selected for the survey was approached for participation and consent for urine testing. If consent to test her urine specimen was not obtained, the nonblinded specimen was discarded. If consent was given, the specimen was shipped to the central testing laboratory, identified under the regular survey ID number that was also used for the questionnaires and abstracts. This specimen was frozen and testing was not authorized until a form linking the survey ID and hospital name was destroyed. This was done 30 days after the interviewer had completed work in the hospital. The delay was to allow for receipt of medical record data for the few mothers and/or infants that could not be obtained before the interviewer left the hospital.

The sample roster containing information relating the survey ID number to the subject's name and mother and infant hospital patient numbers was destroyed in the hospital and not forwarded to the home office. The hospital patient numbers for those few subjects and infants whose record data had been delayed were copied onto a separate form. The form containing these patient numbers was forwarded to the home office. The form was destroyed when the medical record data were received from the hospital for these subjects, or by 30 days after the interviewer left the hospital, whichever was earlier. Urine testing was not authorized until that time. Thus, anonymity of the test results was also attained in the nonblinded study.

Drug Testing. Urine specimens were tested in a central laboratory for metabolites of marijuana, cocaine, opiates, and amphetamines. A NIDA-certified laboratory was used and testing was done under standards established at the time by NIDA for the Federal employee testing program. A laboratory certified to participate in the Federal program had to meet extensive quality control standards, as specified in the Mandatory Guidelines for Federal Workplace Drug Testing Programs (*Federal Register*, April 11, 1988). The guidelines required the use of standards and controls in test batches and monitoring of the laboratory through use of blinded test panels. Since this ongoing quality control process was considered sufficient, no additional measures were utilized for this study.

The laboratory used an established receipt control procedure for tracking specimens through testing and reporting of results. Upon receipt of a shipment by the laboratory, specimens were frozen at -20° C and held until the laboratory was notified to test specimens for that hospital. Permission to test was issued about 30 days after completion of the survey period in the hospital, up to 2 months after specimen collection.

Specimens were tested initially by an immunoassay (EMIT, Syva) that met Food and Drug Administration requirements for commercial distribution. Positive EMIT tests were then confirmed using gas chromatography/mass spectrometry methods. The test cutoff levels established by NIDA for the screening and confirmatory testing were as follows:

	Screening*	Confirmation*	
Marijuana	50 ng/ml	15 ng/ml	
Cocaine	300 ng/ml	150 ng/ml	
Opiates	300 ng/ml	Codeine 300 ng/ml	Morphine 300 ng/ml
Amphetamines	1000 ng/ml	Amphetamine 500 ng/ml	Methamphetamine 500 ng/ml

* In nanograms per milliliter

Hair Collection

In a subsample of six hospitals, subjects who completed the questionnaire on substance use were asked for written consent to collect a hair specimen and to test it for illicit drugs. If consent was obtained, the interviewer assembled the hair collection materials on the tray over the subject's bed and asked the subject to position herself so a lock could be snipped from the back of her head. The interviewer then located the vertex (crown) of the woman's head, isolated a lock of hair approximately 1/4 inch in diameter (approximately 30 strands) at the crown, and snipped the isolated hair. This was done as close to the scalp as possible. Holding the root end of the lock, the interviewer measured the hair length and cut the lock of hair to a 3-centimeter (cm) length, retaining the root end and disposing of the excess. If the subject's hair was less than 3 cm in length, the whole lock was taken. The interviewer then placed the lock of hair in a small collection vial.

Once the hair was placed in the vial, the interviewer labeled the vial and recorded information on a transmittal form. The following information was written by the interviewer on the vial with a cryomarker: subject's study ID number, date of collection, and color of the hair. The transmittal sheet completed for each sample included: study ID number, date of collection, color of the woman's hair, whether or not the woman had used permanent hair coloring within the past 3 months, whether or not the woman had a permanent within the last 3 months, and whether or not the woman had straightened her hair within the past 3 months. The interviewer gathered this information from the subject before completing the transmittal form.

The interviewer sent the vials in a compartmentalized box to the NIDA Addiction Research Center in Baltimore, together with the transmittal sheets for each sample. Testing of the hair specimens will be done at some time in the future.

A.5.7 Quality Control Procedures

Quality control was approached through several methods, including observation of interviewers, editing of data forms, monitoring at the laboratories that received the urine and hair specimens, and data verification. Each of these methods is briefly described.

Observations

Project staff were trained to serve as quality control supervisors/troubleshooters, conduct on-site observations with each interviewer, and to solve problems in the field as needed. In all, interviewing was observed at 26 (50 percent) of the hospitals participating in the study, and individual interviewers were observed at up to three different sites. The decision to observe an interviewer at more than one site was based on whether or not the interviewer needed further training or whether or not problems arose at a hospital that warranted personal assistance from a project staff member.

Prior to each visit, the QC supervisor met with the field director and field supervisor for a briefing on any specific problems with either the interviewer or the hospital that might affect the data collection. By being aware of retraining or intervention needs, difficulties were resolved or improved in a timely and efficient manner once the QC supervisor arrived at the site.

Site observations were usually conducted over a 3-day period, with the QC supervisor accompanying the interviewer throughout the day. In sample clusters with more than one hospital, the supervisor visited each hospital for at least 2 days. The observer used an interviewer observation form to guide the visit and to evaluate the quality of the interviewer's work. During the hospital visit, the QC supervisor performed the following tasks:

- Reviewed sampling as completed by the interviewer from the delivery log;
- Observed the sorting, labeling, storage, temperature control, and shipping of urine specimens, and reviewed the Blinded Study Data Forms;
- Monitored urine collection, and checked that posters were in position and nurse instructions were distributed;
- Observed the interviewer approach the subject, introduce the survey and obtain verbal consent, administer the IAQ and SAQ, obtain written consent, and collect a hair sample, if applicable;
- Reviewed Nonresponse Data Forms; and
- Reviewed both mother and infant medical records abstracts, including photocopies, comparing information recorded with the original records.

Immediate feedback was provided to the interviewers, with on-site retraining provided as necessary. In nonresponse situations, the QC supervisor completed a Nonresponse Report independently, recording the interviewer's approach and the subject's comments for discussion with the interviewer. At the end of the visit, the observer reviewed her observations with the interviewer, documenting these and any other comments regarding the interviewer's performance.

Observers were instructed to reabstract the medical records for three to five abstracts completed by the interviewer, providing on-site retraining if necessary. In all, QC observers reviewed or reabstracted 158 mother and infant records. They also completed 178 additional abstracts in hospitals where difficulties, or specific agreements, with medical records departments required that abstracting be completed after interview data collection had been completed.

Observers also met hospital personnel involved with the project — nurses, clinical liaisons, medical records and lab directors, and key physicians — as they were available. At several hospitals where additional nurse orientations were required, QC staff were able to observe interviewer presentations to the nurses. When necessary, QC staff served as troubleshooters, attempting to resolve issues such as urine noncollection, problems in approaching subjects prior to discharge, or problems in accessing medical records.

In addition to on-site observations, each interviewer tape-recorded two interviews during her first 2 days of data collection and returned these tapes with the completed IAQs to the field supervisor for review. As supervisors listened to each tape, they completed a form that provided a means to document the quality of the interviewer's techniques and style during the process of obtaining consent and interviewing, any subject difficulties and questions, and any changes in wording made by the interviewer. Supervisors could then provide timely feedback, retraining the interviewer over the phone if necessary, before much work was completed.

A total of 92 tapes were reviewed, representing interviews conducted in 30 hospitals. (As a result of malfunctioning tape recorders, no tapes were received from four interviewers.) Combining on-site and taped reviews, quality control observations of interviewing were conducted at 47 of the 52 hospitals and with 161 of the total 2,701 IAQs completed.

Editing

Accuracy, completeness, and consistency in recording the data were monitored through the edit and feedback process. This process began in the data collection phase.

For the NPHS, as personal identifiers were removed from all materials, recontact of the subject was not possible, so that steps were taken to obtain accurate information before subjects were discharged from the hospital. At the completion of the IAQ, while the subject was filling in the SAQ, the interviewer conducted a "scan edit" to determine whether all items were entered correctly. Any discrepancies or omissions were then resolved between the interviewer and the subject after completion of the SAQ.

Materials returned to the home office were carefully reviewed by an editing group that was specifically trained for this project. Medical records abstracts were edited separately by a medical coding group. Each group provided feedback to the supervisors on special forms, with photocopies of the errors where appropriate. Supervisors then reviewed the feedback forms with the interviewers on the telephone. If the errors were extensive or required complex explanations, photocopies were sent to the interviewer prior to the phone discussion.

The first two abstracts completed in each hospital were returned immediately to the home office and were reviewed by the team of nurses who conducted the hospital negotiations and had trained the interviewers on abstracting. Reviews focused not only on the quality of recording by the interviewer, but also on the availability of information in the medical records. Feedback was immediately provided to the interviewers in a phone conference with the field supervisor and abstract reviewer together.

All editing feedback was reviewed by the field director for trends among interviewers, and special problems were discussed in weekly staff meetings. Supervisors notified interviewers by telephone of any corrections or changes that required immediate attention. Several memos were issued to all field staff to confirm in writing and fully explain common errors, revisions, and procedural decisions.

If the interviewer had any reason to doubt the reliability of information or quality of data obtained during the interview, she recorded comments at the end of the IAQ. These remarks could include that the subject appeared to be on drugs, that the subject was emotionally unstable or upset, or that someone was present during the interview who might have influenced the subject's responses. Interviewer remarks were carefully reviewed by the editing staff, and these were taken into account when deciding whether or not to accept the interview data.

Data Verification

At the conclusion of the interview, each subject was asked to complete a verification postcard, addressed to the home office. On this card, the subject recorded the interviewer's initials, approximate length of the interview, and name of the hospital. She also signed her name on the card, so that handwriting could be compared among the postcards. The survey identification number used on the data forms was not entered on this card.

Urine and Hair Laboratory Monitoring

Urine specimens were shipped directly to a clinical testing laboratory that followed current NIDA-approved standards for drug testing and quality control. Quality control was monitored by the Government Certifying Scientist assigned to the lab, under a program independent of the NPHS.

Hair specimens were shipped by the interviewers directly to the Addiction Research Center (ARC). ARC staff examined the specimens and provided feedback on the amount, length, and assessment of color. No problems were reported regarding hair collection.

A.6 Negotiations with Hospitals

This section describes the procedures followed in recruiting hospitals for the NPHS. Endorsements and letters of support (A.6.1), steps in obtaining hospital approval (A.6.2), and hospital incentives (A.6.3) are covered.

A.6.1 Endorsements/Letters of Support

It was believed that success in working with survey hospitals would be enhanced by advance efforts that included consultations with associations of hospitals and medical professionals that might have an interest in the survey findings. Letters of support or endorsement were requested from a number of national organizations. Both the American College of Obstetricians and Gynecologists and the affiliated Nurses Association placed an announcement in their newsletters describing and encouraging hospital participation in the study. Letters of endorsement were provided by the American Academy of Pediatrics and the American Nurses Association.

A.6.2 Steps in Obtaining Hospital Approval

The NPHS project team pursued hospital negotiations at two levels. Level I involved gaining hospital management approval for the survey; Level II involved negotiation of details with department heads to implement the survey, once hospital management approval had been obtained. At both levels of negotiations, the study team sought to anticipate and respond to hospital needs and concerns. To the extent possible without compromising the survey protocol, the team had to develop procedures with some flexibility to accommodate different hospital conditions. All of the study materials (i.e., study protocol, consent forms, medical abstract forms, study questionnaires, relevant form letters, and project summaries) were prepared prior to negotiations for review by the hospital staff.

Hospital Contact Procedures - Level I Negotiations

Once the sample of hospitals was selected, home office staff obtained the name, title, mailing address, and telephone number of each Chief of Obstetrics and of Pediatrics, the president or chief executive officer (CEO), and Director of Medical Records. The initial contact was made by a member of the contractor's negotiating team. Contact with the Chief of Obstetrics at each hospital was sought first, followed up by attempts to contact the CEO. From these initial discussions, home office staff identified the appropriate hospital staff with whom to further discuss hospital approval requirements.

The path to approval, and the layers of approval required, varied from hospital to hospital. In the usual scenario, initial contact was made with the chief of the obstetrics service or department, the study was briefly explained, and permission was sought to send a packet of information containing the protocol and other study materials. In some cases, contacting those physicians who were also in private practice was extremely difficult. After numerous attempts at direct contact, negotiations staff established rapport with a secretary or office manager, briefly explained the study, and sent the materials for review.

Following a 10-day waiting period to permit review of the survey protocol, the team member again telephoned the hospital contact to answer questions, discuss details, and request survey support. With his or her agreement, a letter was sent to the hospital CEO describing the study and soliciting hospital cooperation. The letter was accompanied by the study overview, a letter signed by the Director of NIDA requesting hospital cooperation, copies of the letters of support/endorsement, and a copy of the newsletter items.

About 2 weeks after sending this material, the team member made a follow-up telephone call to the CEO. If the CEO agreed, team members proceeded with the next step to obtain approval. About half the time, this next step was review by the hospital Institutional Review Board (IRB), sometimes called the Hospital Research Committee or Human Subjects Committee. In some hospitals, it was necessary to gain approval from a nursing administrator or an obstetrics committee before submission to the hospital IRB. It was found that obtaining agreement to participate was expedited if the home office prepared the IRB materials. Sometimes, this required changing the planned survey consent form to conform to hospital consent language and format requirements. At the request of some hospitals, home office staff were present for the IRB meeting and presented the study to the IRB.

Once agreement to participate was secured, a formal letter of approval was requested. Furnishing a model letter to the hospital expedited this step. At the completion of Level I negotiations, a Negotiations Check List was completed and sent to the assigned Level II negotiator.

Hospital Contact Procedures - Level II Negotiations

Once agreement from hospital management was secured, specific procedural arrangements became the focus of discussions with the hospital staff. As preparation for obtaining this information from the national survey hospitals, home office staff made site visits to the four pilot study hospitals to obtain Level II information and to observe day-to-day activities. The visits were directed to explaining the study, establishing rapport, obtaining essential information and hospital forms, enlisting the cooperation of hospital personnel, and gaining support for the study.

Through these visits, staff gained the experience needed to complete the Level II details by telephone from the national survey hospitals.

Several home office nurses were trained to carry out Level II hospital contacts for the national survey. During initial discussions, the key physician was asked to name a liaison. This clinical liaison (usually the head nurse or nursing supervisor in the obstetrics department) assisted the home office staff in obtaining the detailed information from various hospital departments that was necessary to plan the implementation of the survey at the hospital.

The negotiating process continued, at some level, until the hospital was assigned to the field interviewer. One of the objectives of the Level II process was to be certain that all appropriate hospital personnel — including the clinical liaison and head nurse, director of medical records, director of admissions, director of social services, director of the laboratory, and head of the shipping and receiving department — were acquainted with the study. The cooperation of each of these individuals was vital to avert problems and ensure that data collection in the hospitals proceeded smoothly. The aims of the negotiation process were to be certain that hospital staff understood exactly what the interviewer would need from them and to address any concerns they had about the survey or their role in the survey. Home office staff frequently found that the relevant department heads had not been previously informed about the survey, as assumed. In this situation, home office staff indicated that approval had been made by hospital management, explained the study, answered any questions, and gave assurance that the burden on hospital personnel would be minimal.

Even with the most thorough preparation, prior agreements were at times subject to further questions once work in the hospital began. Interviewers were trained to be sensitive to this possibility and to contact the home office at the first sign of any difficulties.

A.6.3 Hospital Incentives

During initial discussions with the key hospital personnel at several hospitals, home office staff became aware that hospitals might often request remuneration in some form, such as payment for photocopying of medical records or contributions to a nurses' research fund. In this situation, the negotiator indicated that a small amount of money ($250.00) was available for donation to the hospital. When the hospital staff learned that only this amount was available, the issue of payment seemed to be less of an issue. While this token payment may ultimately have been a minor influence on participation, it seemed, nevertheless, to help establish rapport and be an effective tool in gaining cooperation at the initial stages of recruitment.

A.7 Data Processing and Entry

This section describes the quality control procedures for data management and processing that were used for the National Pregnancy and Health Survey. It covers the receipt control system (A.7.1), coding (A.7.2), data entry (A.7.3), and data cleaning (A.7.4).

A.7.1 Receipt Control System

A computer-based receipt control system (RCS) was developed to log the receipt and disposition of the many different types of forms and questionnaires received from the field. Specifically, the system had five basic functions: (1) logging of receipts; (2) review of receipted forms; (3) edit of receipted forms; (4) search of variables entered from forms; and (5) generation of reports of receipted forms. The RCS, which utilized a revised version of software that had been created for previous surveys, was accessible to appropriate staff through a local area network. It provided entry screens that were customized to the type of form and data to be entered. The system and each screen associated with it were documented in a users' guide.

Three different types of forms were received in the home office and logged into the RCS. These types were brief data forms completed by the interviewer, transmittal forms, and the questionnaires and medical record abstracts. The brief data forms were used to record information on nonresponse cases, hair and urine collection, and medical record abstracting. Transmittal forms were used with shipments of hair and urine specimens from the field to the lab and with shipments of questionnaires and data forms to the home office. A copy of each specimen transmittal form was sent to receipt control at the home office.

Interviewers mailed questionnaires to the home office on a schedule that varied by form. On a weekly basis, they mailed the Case Record Folder (CRF) and Interviewer Administered Questionnaire (IAQ) forms, along with any other applicable completed forms, such as the Hair Inventory Record. Self Administered Questionnaire (SAQ) forms were mailed by the interviewer at the end of each interview, so these questionnaires were received in separate envelopes for each subject. Medical record abstracts for mothers and infants were usually completed after the IAQ forms and mailed in separate batches by the interviewers.

When forms and questionnaires were received in the home office, the receipt clerk checked the field transmittal form against the items received to make sure there were no discrepancies. The receipt clerk then sorted the receipts by form type and logged completed forms into the RCS. Forms that had nonresponse dispositions were entered into the system through a different screen that logged each ID separately. The receipt system generated a record for each ID and form type that was entered into the system. Every record created within the system contained the subject ID number, date that the form was received in the home office, and disposition of the form. Depending on the type of form, the record also contained other data that were entered from the form by the receipt clerk, such as the volume of a urine specimen or, for the CRF, consent status for each component of the survey.

Consistency checks for quality control of the data entered into the receipt system were developed and run routinely against receipt data. These edits included checks within the CRF data and checks between different form types and their dispositions. Field supervisors were consulted, when necessary, to resolve inconsistencies.

The RCS was designed to batch forms and questionnaires that required data processing. Each batch was designated by a unique sequential number. When the system created a batch, it also generated a printed batch form that documented the ID numbers of every subject in the batch; this form stayed with the batch as it went through all data processing activities. Once forms were batched, a specific case could be located in the receipt system either by searching on the batch number or by searching on the subject ID number. Batch-related information, such as the status of the different data processing activities, could be reviewed through the receipt system.

A.7.2 Coding

A number of other data preparation activities were performed prior to key entry of data. After being logged into the RCS, forms and questionnaires were transmitted to the project coding staff. Most of the forms went through only a minimal coding process. The Mother's Medical Record Abstract and the Infant's Medical Record Abstract required coding of discharge diagnoses using the ICD-9-CM system.

Codebooks

The codebooks for the NPHS were developed using the contractor's proprietary software that was designed to facilitate the coding and editing of survey data. COED (for codebook editor) uses an integrated system of interactive and batch programs that produces coding manuals, data editing programs, and file documentation. For the NPHS, COED was used on the DEC VAX computer system. Coding manuals and coding and key entry procedures were developed for the following NPHS questionnaires and forms: IAQ; SAQ; Medical Abstract Forms; Nonresponse Data Form; Blinded Study Data Form; and Hair Inventory Record. Data from these forms made up the primary data files from the survey.

The COED development specialist for the NPHS entered statements used by the software to generate coding manuals. Each manual contained the following: variable names for each codeable item; record and column locations for all codeable items; codes for all possible responses; value labels for all codes; and delineation of skip patterns. Because the actual questionnaires and forms omitted the record and column designations, the coding supervisor wrote in record and column designations on a set of blank questionnaires and forms in order to help coders and keyers when they first started working with the coding manuals. When the COED codebook development was completed, the data entry manager used the information in the codebooks, along with the annotated forms, to design and program the data entry software.

Following the rules set forth in the COED coding manuals, the coders prepared the forms for data entry by verifying that appropriate skip patterns were followed, coding verbatim entries whenever necessary, classifying responses recorded on "Other Specify" lines, reviewing interviewer's marginal notes, and entering codes indicating missing data, if applicable. Coders looked for and resolved inconsistencies in the data, using rules provided by editing instructions in the coding manual.

Coding Decisions

Any coding situation discovered in a questionnaire that was not specifically covered in the coding manual was referred to the coding supervisor. This rule was followed to assure that all decisions were made consistently, documented, and incorporated into the coding manuals when necessary. Three forms were designed to control the decision-making process: Changes and Additions to the Code, the Decision Log, and Problem Cards. Changes and Additions to the Code listed supervisor-approved updates to the coding manual. In addition to decisions that resulted in changes to the coding manual, a number of decisions were made on a case-by-case basis during the coding operation; the Decision Log was used to record such decisions. All decisions were approved by a senior project staff person.

Another type of decision that occurred during the coding operation relates to individual responses that could not be assigned to the precoded categories provided in the form (i.e., "Other Specify" responses). The Problem Card was designed to control decisions for these type of responses. These cards were reviewed and maintained in a file box by the coding supervisor. At various points through the project, project staff reviewed the cards and, as appropriate, created new code categories, expanded existing code categories, or left the response as "Other."

Coder Training and Quality Control

Coders were trained on all questionnaires and other data collection forms. The training was done over a 3-day period, using some of the same training methods employed for the interviewers. The coders were given copies of the item-by-item specifications provided to interviewers. During coder training, every data item on each form and questionnaire was reviewed, as coders were led through each coding manual.

After training, each coder's work was 100 percent verified for the first 50 forms/questionnaires coded and 20 percent verified for a random selection of forms thereafter, providing that an error rate of less than or equal to 0.1 percent was maintained. The coding supervisor corrected all errors discovered and gave appropriate feedback to the coders.

As part of the coding operation, a feedback form for interviewers was also developed. As coders found interviewer errors, they completed the feedback form, which was then routed to the field supervisor for review with the interviewer. This feedback to the field was designed to improve data quality overall.

Medical Edit/Coding

Medical record abstract forms were sent to medical coding staff following the regular coding task. Medical coders performed a scan edit, which included auditing field interviewer abstraction of medical record data, by checking the medical record photocopies that were attached to the abstract form. Medical coders used the ICD-9-CM Medical Code Classification System to code conditions for the mother and infant from the medical record photocopies that were attached to the abstract forms. The first 25 forms coded by each medical coder were 100 percent verified, and 20 percent of her forms were verified thereafter. The medical coding supervisor was responsible for giving error feedback to the coders. Similar to the regular coding process, an interviewer feedback form was completed by medical coders when they found interviewer errors in the abstract form. These feedback forms were sent to the field supervisor to be reviewed with the interviewer.

A.7.3 Data Entry

After the data forms went through all of the coding and verification processes, they were key entered, verified, and transmitted to the VAX computer system. The Data Entry Unit used the Tartan System, which is an integrated system of hardware and software set up to achieve direct data entry, blind verification, generation of production and quality reports on each entry operator, and transfer of files directly to the VAX system.

Because the entry programs were specifically designed to emulate the questionnaire layout, these programs required that the questionnaire design be final. Once the questionnaire layouts were stable, the NPHS codebook specialist, in consultation with the lead programmer, drew up data file layouts. The data entry manager reviewed these layouts and, together with the codebook specialist, identified any necessary revisions.

Using the standard data entry approach, questionnaire skip patterns were programmed into the Tartan data entry system to facilitate ease of entry. The data entry software automatically inserted blanks into fields where appropriate, which obviated the need for operators to key large numbers of blanks for skipped fields. When the data on the forms disagreed with the programmed skip patterns, the keyers overrode the skip pattern in the program and entered the data with the inconsistencies that were shown on the form. The operators flagged the inconsistencies on the hard-copy forms, and returned the hard-copy forms to the data preparation staff. The editing decisions were then left to this staff. All questionnaires and forms were 100 percent independently key verified.

Receipt control batches were maintained throughout the keying process. Keyed data were transmitted to the VAX, where the machine edit programs were run on the keyed data. For each different form type, initially two batches were keyed and run through the machine edit programs to test both the keying programs and the machine edit programs. Corrections to both programs were made as appropriate after these trial runs.

A.7.4 Data Cleaning

The keyed data files were then processed through the machine edit programs developed from the COED system. These programs were generated by submitting the statements that were used to create the COED file documentation to a special compiler that produces machine edit programs. The programs included checks to determine that record structures were valid for each case, values entered for each variable were within the acceptable range, and skip pattern logic was followed appropriately by the interviewer. In addition, special machine edit program modules were written to check for consistency among particular data items.

The keyed data were run through the machine edit programs in batches. Each batch was submitted to as many cycles of editing and correction as were needed to produce data that were error free. Error listings produced by the machine edit programs contained the date of the edit, batch number being edited, cycle number, and page number. For each ID number associated with any errors found by the programs, the edit output included a dump of the data. Additional output permitted machine editors to identify the specific errors.

Each error listing generated for a batch was assigned to a machine editor who was responsible for pulling the source documents and resolving data discrepancies that may have been the result of respondent, interviewer, coder, or keyer error. Decisions made during the machine edit process that required interpretation of data recorded on the source forms were recorded in a Machine Edit Decision Log.

When all errors identified in the machine editing were corrected, a listing of marginal frequencies for all variables was run. The frequencies were reviewed by the machine editors to identify any remaining incorrect codes or data inconsistencies. Selected cross-tabulations also were run to identify data inconsistencies. Any errors or omissions from the machine edit programs were corrected, and the data were again run through the revised edit programs until no further errors were produced.

A.8 Definitions of Terms

A number of terms have been used throughout this report, and particularly in chapter 4, to describe the substances used and the characteristics of the women who used these substances. To assist the reader, important terms are defined here in regard to their derivation from the survey data.

Substance Use Terms

The questionnaire on substance use was largely composed of sections corresponding to periods of time. The respondent was asked if she used specific substances during the time period, requesting responses of "Yes" or "No". Only responses of "Yes" were counted in the numerators of rates; all respondents were counted in the denominators of rates, including those persons who did not answer the question. Thus, a missing response effectively was counted as a "No" response.

Periods of Use. Sections of the questionnaire referred to substance use during the total period of the pregnancy or during five shorter time segments: the period covering 3 months before conception, each trimester of pregnancy, and the last 3 days prior to admission for delivery. These periods were referenced to the date of conception, which was estimated from the time of the mother's last menstrual period. The dates identifying the beginning and end of each period were computed and entered on the questionnaire to guide the respondent.

Use of the following substances was covered in all of the five shorter time segments: marijuana, cocaine, crack cocaine, heroin, methadone, methamphetamine, alcohol, and cigarettes.

Use of hallucinogens and inhalants was asked only for the total period of the pregnancy, while use of prescription psychotherapeutic medications was asked for the total period of the pregnancy and for the last 3 days before admission. Information was obtained on whether or not use of a psychotherapeutic medication was under physician orders for the total pregnancy, but this differentiation was not made for use during the last 3 days.

Use During the Past Year. This included only the selected substances that were asked about in every one of the five individual time segments, as indicated above. Responses for all time segments were combined, and a response of "Yes" in any time segment was counted in the numerator of the rates.

Use During Pregnancy. This represented all substances included in the survey. Responses for all trimesters and the last 3 days before delivery were combined, and a response of "Yes" in any time period was counted in the numerator of the rates.

Use During Specific Periods of the Pregnancy. Rates of use for each trimester and for the last 3 days of the pregnancy were based on responses for those specific time segments. Some persons reported use in the last 3 days before admission but not in the section of the questionnaire covering the whole last trimester; these additional responses were included in computing the rates for the third trimester.

Note that the tables indicate rates of use for the last 3 days before delivery. The actual question asked use during the last 3 days before admission, not including the day of admission.

Ever Used. Rates based on reported use sometime during the respondent's lifetime were computed for marijuana or hashish, alcohol, and cigarettes. Responses of use of these drugs during any of the five individual time segments were combined with responses to a question asking the time of the most recent use during the respondent's lifetime. That is, a response of use in any time segment was counted as "Ever Used," even if there were discrepancies among responses. The use of hashish was incorporated in the latter question but not in the questions for each of the individual time segments.

Characteristics of The Population

The report presents data for subgroups of the population that were defined by characteristics of the mothers in the survey sample. Except for tables of blinded urine test data, these characteristics (e.g., age, race/ethnicity, household income, number of prenatal visits) were based on information obtained directly from the survey respondents in the interviewer-administered questionnaire. Age, race, ethnicity, and method of hospital payment information used to characterize the blinded urine test data and questionnaire nonrespondents (using two different forms) were abstracted from medical records. A further data item, hospital size as measured by the annual number of live births, was based on information provided by each participating hospital. For the analyses in this report, values were imputed for any missing values of these variables.

Age. Age at delivery was computed from the delivery date and from the birth date provided by the mother.

Race/Ethnicity. The race/ethnic category assigned was based on combining responses to two questions, one asking about Hispanic ethnicity or Spanish origin and one asking the mother to indicate her race. Following the convention used in other NIDA surveys, those persons of Hispanic ethnicity were designated as "Hispanic" regardless of race. Non-Hispanic mothers were designated by race: "white, non-Hispanic", "black non-Hispanic" or "other, non-Hispanic". The "other, non-Hispanic" category included women designating their race as Asian, Pacific Islander, Eskimo, Aleut, or American Indian.

Marital Status. The category of marital status was designated by the mother.

Education. The mother was asked to indicate the last grade of school that she had completed.

Employment Status. The mother was asked to indicate what she was doing most of the time in the month before she became pregnant: working, unemployed, going to school, etc.

Household Income. The category of household income was based on two questions. If the subject lived with family members, total combined family income was used to assign "Household Income." Combined total household income was used for all other subjects, who made up only 6 percent of the sample.

Hospital Payment. The mother was asked a series of questions regarding sources of payments to the hospital for this admission. If there was any mention of payment by Medicaid or other public agency that subsidized medical care for low-income persons, the source of payment was classified as "Public Aid," regardless of whether this was the main source of payment. For all other subjects, the category of "Private Source" was assigned.

Prenatal Visits. The number of prenatal visits for this pregnancy was obtained from the mother in the IAQ.

Hospital Size. Data on the number of live births delivered over the past 12 months were obtained from each participating hospital and used as the measure of size.

A.9 Proportion of Total Project Budget for Different Activities

Proportions of the total project budget spent on the different component activities of the project are presented here to assist researchers in planning similar surveys. They include:

- Eighteen percent for designing and developing survey forms and procedures, translating Spanish-language versions, initial sample frame construction and hospital sample selection, preparing and revising support statement for OMB submission, designing and programming data management/receipt control systems, routine progress reports, redesigning and resampling after the Feasibility Study;

- Twelve percent for recruiting the Advisory Panel and the Panel meeting, developing the approach to and materials for hospital recruitment, preparing and conducting the pilot test, preparing the Feasibility Study report;

- Twenty-five percent for seeking endorsements from national professional associations, recruiting and negotiating with original and replacement hospitals for the main survey;

- Thirty-four percent for data collection and processing for the national survey that entailed recruiting and hiring interviewers, interviewer wages and expenses, mailing and other expenses associated with field data collection, data coding and editing, data entry, preparing basic data files, laboratory costs for urine storage and testing; and

- Eleven percent for developing final sample weights, computing and analysis, documenting project data files, and preparing and revising the final report.

A.10 Estimation and Hypothesis Testing

This section of the appendix discusses in some detail various aspects of the estimation procedures used for the NPHS. These include sample weighting, variance estimation, the construction of confidence intervals, and hypothesis testing.

A.10.1 Weighting

Sample weights were developed incorporating the probability of selection of each sampled mother, adjustments for nonresponse, and poststratification to independent data on annual births in the U.S.

This section will present the development of the weights for the SAQ respondents, including nonresponse adjustments and poststratification. The procedures for weighting the blinded urine test results also followed the general approach described. Any departures are noted below.

A.10.1.1 Base Weights

The sample base weight w_{ijk} of sampled woman k in hospital j and stratum i was the product of four components:

$$w_{ijk} = \frac{1}{p_{ij}} \times \frac{365}{e_{ij}} \times \frac{1}{r_{ij}} \times d_{ijk}$$

where

p_{ij} = the probability of selection of hospital j in stratum i (i indexes metro-Hispanic, metro-other, and nonmetro)

e_{ij} = the number of days in which women giving birth in hospital j and stratum i could have been included in the sample

r_{ij} = the sampling rate at which women were selected for inclusion in the sample in hospital j of stratum i

d_{ijk} = approximately 2, if woman k in hospital j and stratum i gave birth on Friday, Saturday, Sunday, or Monday (the actual factors used varied by day and are given in section A.2.2.4)

= 1, otherwise

The component probabilities of selection were discussed in section A.2. The factor d_{ijk} was incorporated to reflect the fact that interviewers were given specific days off at a given hospital. Approximately half the time, Friday and Saturday were assigned as off-days. Otherwise, Sunday and Monday were assigned. Since births on these 4 days were sampled at roughly half the rate of the other 3 days, the value d_{ijk} is included in the sample weight.

A.10.1.2 Adjusting for Nonresponse to the SAQ

Adjustments for nonresponse were done in two stages: first, for those cases where the eligibility of the nonrespondent was not established; and second, for the remainder of the nonrespondents.

The first adjustment dealt with the situation where a nonresponding mother's eligibility status was unknown. One eligibility criterion was language based. A sampled woman was considered to be eligible for the study only if she spoke English or Spanish. However, for several reasons, an interviewer may not have been able to ascertain a nonrespondent's eligibility. For example, a sampled woman could have been discharged from a hospital early or experienced health problems that prevented contact by the interviewer. For such nonrespondents, adjustment factors were applied to the base weights of all mothers whose eligibility status was known to reflect the number of ineligible and eligible persons represented by the nonrespondents whose eligibility status was unknown. Known ineligibles were then removed from further weighting. A second adjustment was then undertaken for all remaining nonrespondents.

Cells for computing nonresponse adjustments were created by a cross-classification of demographic and geographic variables. For the first stage of nonresponse adjustment, the cells were based on the four Census regions crossed with hospital size in terms of number of annual births (under 1,000; 1,000-1,999; 2,000-2,999; 3,000 or more) within the three sample strata (metro, High Hispanic; metro, other; nonmetro). For the second stage the cells were based on the cross-classification of race-ethnicity (non-Hispanic white; non-Hispanic black; Hispanic; other), age group (under 20; 20-24; 25-29; 30-34; 35-39; 40 or older), method of payment (private, public), and infant's birth weight in grams (<1500g; 1500-2499g; 2500-3499g; 3500g; or more). When the number of responding cases in an initially formed adjustment cell was under 20, the cell was combined with a cell of similar demographic makeup so that, in total, the resulting cell had at least 20 respondents.

For the first stage of nonresponse adjustment (accounting for nonrespondents whose eligibility status was unknown), adjustment factor a_{c1} for cell c1 was computed as:

$$a_{c1} = \frac{\sum\limits^{\text{all selected}} w_{c1j}}{\sum\limits^{\text{all selected}} \varepsilon_{c1j} w_{c1j}},$$

where

w_{c1j} = the base weight for mother j in cell c1;

ε_{c1j} = 1, if the eligibility status of mother j in cell c1 was known; and

= 0, otherwise.

The 46 known ineligible mothers (about 1.4 percent of all sample mothers and about 1.5 percent of those mothers whose eligibility status could be ascertained) were then dropped from the weighting process.

For the second stage of nonresponse adjustment (accounting for subject nonresponse to the SAQ), adjustment factor a_{c2} for cell c2 (unrelated to cell c1) was computed as:

$$a_{c2} = \frac{\sum\limits^{\substack{\text{all}\\ \text{known}\\ \text{eligible}\\ \text{mothers}\\ \text{selected}}} a_{c1j}\, w_{c2j}}{\sum\limits^{\substack{\text{all}\\ \text{known}\\ \text{eligible}\\ \text{mothers}\\ \text{selected}}} \varepsilon_{c2j}\, a_{c1j}\, w_{c2j}},$$

where

w_{c2j} = the base weight for mother j in cell c2;

a_{c1j} = the adjustment factor for mother j from her first adjustment cell c1;

ε_{c2j} = 1, if mother j was a respondent to the SAQ; and

= 0, otherwise.

If an adjustment factor for a cell exceeded 2, that cell was combined with another cell similar in demographic characteristics to limit the impact of any particular adjustment on sample estimates and variability.

Values of variables used to define the adjustment cells were occasionally missing and were imputed using a hot-deck imputation method prior to creating the adjustment cells.

A.10.1.3 Adjusting for Nonresponse to the Blinded Urine Test

Because of the steps taken to preserve anonymity, language eligibility status could not be determined for the sample mothers in the blinded testing data base. For the purposes of weighting, all women in the data base were assumed eligible and there was no adjustment for eligibility status. Of the 52 hospitals that participated in the general survey effort, there were 5 that did not agree to participate in the blinded urine testing. It was necessary to reflect this component of nonresponse (i.e., testing not done) in the sample weights developed for the blinded test results.

We considered three approaches for accomplishing this:

- Adjust for nonresponse at the hospital level;
- Include all the women from these five hospitals as nonrespondents and use the characteristics collected on all sampled mothers for the nonresponse adjustments; or
- Employ the nonblinded test results collected for mothers who gave consent in these five hospitals where available and do mother-level nonresponse adjustments for the remaining women for whom test results were not available.

We selected the third alternative for several reasons. First, the 2,461 women who completed the SAQ and gave permission to have their urine tested represented approximately 76 percent of all sampled women. For the five hospitals considered alone, the percent who gave permission was also 76; nonblinded test results were obtained for roughly 40 percent of all sampled women in the five hospitals including those who did not participate in the SAQ. The 76 percent figure for those giving consent is a relatively high percentage, although those who refused participation at some point may have been more likely to have used drugs. Second, the blinded test results were to serve two purposes: (1) to provide a comparison with the nonblinded results to see if there was evidence of substantial differences in positive test rates between all sampled mothers and those who completed the SAQ; and (2) to provide a national estimate for drug use based solely on the blinded test results. Since nonblinded test results were available in the five hospitals for the mothers who consented, it seemed reasonable to include them and allow the nonresponse adjustments to account for the remainder of the sampled mothers. Otherwise, nonresponse adjustments would have had to account for all sampled mothers in these five hospitals. Moreover, comparisons could still be made using only the data from the 47 hospitals permitting the blinded study, if desired. Comparisons between estimates obtained for mothers found in the 47 cooperating hospitals and those obtained for mothers in all 52 hospitals showed no substantial differences between the two.

A.10.1.4 Poststratification

Overview

Once the sample weights were adjusted for nonresponse, ratio adjustments were undertaken to 1991 Natality figures published by the National Center for Health Statistics (NCHS). (See the *Monthly Vital Statistics Report* of NCHS, 42(3), Supplement, September 9, 1993.)

First, each mother's nonresponse adjusted sample weight was multiplied by the number of babies delivered, to obtain birth-level values for each mother. Then poststratification was achieved by raking these birth-level values to three separate sets of figures reflecting the distribution of live births in the Nation:

1. Day of week of birth;
2. Race (black, other) by age of mother (under 25 years of age, 25 years and over); and
3. Ethnicity (Hispanic, other) by Census region of mother (Northeast, Midwest, South, West)

The NCHS report provided both the distributions of live births in the United States in 1991 and the provisional number of live births nationally in 1992. (In cases where fewer than 50 States provided the 1991 data, demographic distributions were retained and the totals were adjusted to reflect national figures.) The latest available data providing breakdowns on such factors as race of mother and age of mother at the time the weights were being determined were for 1991. Since the survey was conducted during 1992 and 1993, it was desirable to poststratify to data representing this later period. The 1991 figures were adjusted to a projected NCHS figure for the total number of births in the U.S. in 1992 using a single adjustment factor applied to each 1991 total.

Details

For a given poststratification cell c3 after r rakings:

$$f_{c3r} = \frac{B_{c3}}{\sum\limits^{\substack{\text{SAQ}\\\text{respondents}}} w'_{c3jr} b_{c3j}}$$

where

B_{c3} = the number of births associated with cell c3 based on NCHS birth figures for 1991 and 1992;

w'_{c3jr} = the nonresponse adjusted weight for mother j in cell c3 after having gone through r rakings; and

b_{c3j} = the number of babies delivered by mother j in cell c3.

The final poststratified weight w''_{c3rj}, was then obtained for mother j in cell c3 after the final ($r^{\underline{th}}$) raking as:

$$w''_{c3rj} = f_{c3rj}\, a_{c2j}\, a_{c1j}\, w_{c1j}$$

where the factors f_{c3rj}, a_{c2j}, and a_{c1j} indicate the adjustment factors at the three stages of adjustment (nonresponse and poststratification) for mother j.

For the blinded urine test results, poststratification to "day of week of birth" was not possible because day-of-week data were not collected in order to preserve anonymity.

After raking, a trimming process was undertaken on the largest of the sample weights. The purpose of trimming is to reduce the variability of the weights by reducing the size of the largest weights. In so doing, the standard error of the sample estimates will also be reduced, while perhaps incurring a slight bias. Trimming is undertaken with the expectation that the reduction in variance will more than offset the potential bias, thus reducing the mean square error of the estimates.

A.10.1.5 Nonblinded Urine Data

The weights used for estimates for the nonblinded urine data base were the final weights developed for the SAQ data base. There was no further adjustment for nonresponse specific to the availability of non-blinded test results. Nonblinded estimates reflect the characteristics of the portion of the population represented by those for whom nonblinded data were collected.

A.10.2 Estimation, Standard Errors, and Confidence Intervals

A.10.2.1 Estimates of Interest

Of greatest interest in this survey were estimates of the prevalence of substance use. For example, this would include the estimated percentage of women who used marijuana some time during pregnancy or the percentage of white women who used cigarettes during the second trimester of their pregnancy.

An estimated percentage p_{ikt} for subgroup i, substance k, and time period t was obtained as follows:

$$p_{ikt} = \frac{100\Sigma\delta_{jkt}\gamma_{ij}w_j}{\Sigma\gamma_{ij}w_j}$$

where

w_j = the final sample weight for person j

γ_{ij} = 1, if person j is in subgroup i
= 0, otherwise

δ_{jkt} = 1, if person j used substance k during time period t
= 0, otherwise.

The estimated number of women in a subgroup using a particular substance during a particular time period was also of interest and was obtained from the numerator of the above ratio p_{ikt} divided by 100. The corresponding estimate of the number of babies exposed to a particular substance was obtained by using a value γ'_{ij} instead of γ_{ij}, where γ'_{ij} was set equal to the value γ_{ij} multiplied by the number of live births delivered by the mother. A component of the sample weights reflected the number of days a hospital was in the survey as a proportion of a 365-day period, producing annual estimates.

A.10.2.2 Variance Estimation

When a survey design incorporates clustering and differential sampling of some subpopulations, variance estimates that assume a simple random sample design can substantially underestimate the true variability of the sample estimates. For this report the variability of the sample estimates was estimated using jackknife replication (option JK2 in WESVAR). This allowed all aspects of the complex sample design including the weighting process to be reflected in the estimated standard errors. The text, *Introduction to Variance Estimation* by Kirk Wolter, (Springer-Verlag New York, Inc., 1985) is a useful reference for variance estimation associated with complex sample surveys. Replication methods are covered in depth in this text.

An outline of the steps used in computing the standard errors for this survey are:

1. Identify variance estimation strata reflecting the stratification used in the sample selection of PSUs.

   The standard procedure used for doing this when a systematic sample of PSUs is selected is to pair adjacent sampled PSUs. These paired PSUs are considered as having been sampled from the same stratum for variance estimation purposes. This approach is conservative in that it is expected to produce estimates of variance that are, on average, the same or greater than the actual variance. Since there were 37 PSUs, 17 strata consisting of two PSUs and one consisting of three PSUs were formed. As a result, 18 replicates (one per stratum) were created.

2. Create the replicate weights.

   This was done by randomly selecting one PSU from a specified variance estimation stratum (stratum 1 for replicate 1, stratum 2 for replicate 2, etc.) and doubling the values of the base weights for all its sampled cases while "zeroing out" the weights of the cases from the PSU with which it was paired. The base weights for all other PSUs for that replicate are not altered. Thus, the base replicate weights were formed. Then the entire weighting procedure (including nonresponse adjustment, poststratification, and trimming) was undertaken for the PSU for the replicate units. A modified version of this approach was used for the stratum containing three sampled PSUs.

3. Compute the estimated percentage rates for the full sample and for each replicate. The same procedure used for the full sample to estimate the rate was used for each of the 18 replicate weights.

4. Compute the estimated standard errors for the estimated rates.

Variance estimates were produced using the WESVAR computer package developed at Westat.[d]

Specifically, the estimated variance $\hat{\sigma}_p^2$ of an estimated (full sample) prevalence rate p was obtained from the equation:

$$\hat{\sigma}_p^2 = \sum_{k=1}^{18} (p_k - p)^2$$

where

p_k = the estimated prevalence rate for the $k^{\underline{th}}$ replicate of the 18 replicates created for the NPHS; and

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[d] For a discussion of WESVAR, one can reference Mohadjer, L., Morganstein, D., Chu, A. and Rhoads, M. (1986). Estimation and analysis of survey data using PROCs WESVAR, NASSREG and NASSLOG. *Proc. Section Survey Res. Meth.*, 258-263. Washington: American Statistical Association.

p = the estimated prevalence rate for the full sample of NPHS respondents.

Note that

$\hat{\sigma}_p$ = the estimate of the standard error of the estimated rate p.

A.10.2.3 Confidence Intervals

Confidence intervals for survey estimates are provided to give a range of values that are likely to cover the value that would have been obtained had the entire population of interest been surveyed. Confidence intervals are usually calculated by adding and subtracting a certain number of standard errors from the corresponding estimate, thus producing a symmetric interval about the estimate. For example, an estimate of alcohol use during pregnancy might be 23 percent with a 95 percent confidence interval of 19 percent to 27 percent, the estimate plus or minus 4 percent. This approach relies on statistical theory where estimates have an approximate normal or t distribution. However, because many of the estimated prevalence rates of drug use are close to zero, assuming a normal or t distribution (resulting in symmetric confidence intervals) may not be appropriate. In fact, the lower bound of a confidence interval might fall below zero using a symmetric confidence interval approach. A more suitable approach in this situation is to base the confidence intervals on a logit transformation. The resulting confidence intervals are asymmetric and never fall below zero. For example, an estimated cocaine use of 1.5 percent during pregnancy might have a confidence interval of 0.8 percent to 5.6 percent. The lower bound is generally a shorter distance from the sample estimate (for which the interval is being constructed) than the upper bound. Such intervals still provide 95 percent confidence in that, if repeated samples were drawn and corresponding estimates and confidence intervals computed, 95 percent of the confidence intervals would be expected to cover the value that would have been obtained had the entire population been surveyed.

The number of degrees of freedom used in computing the confidence intervals was estimated. The maximum number possible was 18, the number of replicates, and thus confidence intervals were based on a t-distribution. In order to estimate the number of degrees of freedom, a method suggested by Satterthwaite[e] as discussed by Cochran[f] was used.

The effective number of degrees of freedom n_e can be estimated using the following equation:

$$\frac{\left(\sum g_h s_h^2\right)^2}{\sum \frac{g_h^2 s_h^4}{n_h - 1}}$$

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[e] Satterthwaite, F.E. An approximate distribution of estimates of variance components. *Biometrics* 2: 110-114, 1946.

[f] Cochran, W.G. *Sampling Techniques*, 3rd ed., John Wiley & Sons, 1977.

where

g_h = $\frac{N_h\,(N_h - n_h)}{n_h}$

N_h = the population size of stratum h

n_h = the sample size within stratum h

s_h^2 = the sample variance within stratum h

Different scenarios taking into account expected variability and the number of hospital clusters in the sample and in the variance estimation strata were explored. Based on this evaluation, it appeared that an estimate of 15 degrees of freedom was a reasonable choice for constructing confidence intervals and conducting hypothesis tests.

Confidence intervals were computed as indicated below.

For an estimate p, consider the logit transformation of p:

$G = \ln\,[p/(1-p)]$

where "ln" refers to the natural logarithm function and G is referred to as the log odds or logit transformation of p. The quantity G will have a more symmetrical distribution than p, and the lower and upper limits of a 95 percent confidence about G can be constructed as:

$$L_G = G - t_{d,\alpha/2}\left[\frac{\text{s.e.}(p)}{p(1-p)}\right]$$

$$U_G = G + t_{d,\alpha/2}\left[\frac{\text{s.e.}(p)}{p(1-p)}\right]$$

where t is a value obtained from the t distribution, reflecting the number of degrees of freedom (d) available and the level of confidence desired ($1-\alpha$).

For the NPHS

t = the critical value from a t distribution for $\alpha = .05$ and $d = 15$ degrees of freedom to obtain a 95 percent confidence interval

= 2.13; and

s.e.(p) = the standard error of p reflecting the complex sample design of the survey (if the estimated design effect was less that 1, the s.e.(p) was divided by the square root of the design effect to, in essence, impute a design effect of 1 for the confidence intervals).

Lower and upper 95 percent confidence bounds on p were then obtained from the following equations:

$$p_L = \frac{1}{1+\exp(-L_G)}$$

$$p_U = \frac{1}{1+\exp(-U_G)}$$

where "exp" represents evaluation of the exponential function at the lower and upper bounds of G.

As indicated above, in computing the confidence intervals, the standard error of the estimate (s.e. (p)) was increased by a factor of $\sqrt{1 / \mathrm{deff}(p)}$ when the deff (p) was less than one. Here

deff (p) = the design effect of p;

= the ratio of the estimated variance based on the sample design to the variance one would estimate from a simple random sample of the same size n;

$$= \left[\frac{(\text{s.e.}(p))^2}{\frac{p(1-p)}{n}}\right].$$

The reason for making this adjustment to the standard error is that an estimated design effect less than one is highly unexpected for a complex survey design such as that used for the NPHS. A design calling for the clustering of sampling units (e.g., mothers within hospital clusters) and the use of differential sampling rates (e.g., oversampling hospital clusters in the Metro-High Hispanic stratum and undersampling those in the Nonmetro stratum) virtually always results in sample variances that are larger than those that would have resulted from a simple random sample (e.g., of individual mothers randomly selected with equal probability throughout the country without clustering them by geographic or administrative units) of the same size. Thus, the design effect of p (the deff of (p)) is expected to be somewhat greater than 1. However, estimates of variability for prevalence rates close to zero (such as for reported illicit drug use) can be highly variable themselves, so that estimated design effects under 1 are sometimes encountered. In order to provide more meaningful confidence intervals, for those estimates where the design effects were under 1, the standard errors were increased by the factor $\sqrt{1 / \mathit{deff}(p)}$ so that the corresponding confidence intervals reflected a design effect of 1. This thus resulted in wider confidence intervals than would have been presented using the unadjusted estimates of the standard errors.

One may wish to determine the standard error of p used in determining a confidence interval appearing in one of the tables in this report. To do so, one may use the upper limit of the confidence interval p_U and the estimate p as follows:

$$\text{s.e.}(p) = \frac{-p(1-p)}{2.13}\left[\ln\left(\frac{p}{1-p}\right) + \ln\left(\frac{1}{p_U}-1\right)\right].$$

A.10.3 Tests of Significance

A.10.3.1 General Approach

In comparing the rates of substance use for different subgroups of the population, it is important to assess whether the differences observed between the sample estimates of usage reflect actual differences between the subgroups in the entire population or whether the observed differences could have arisen simply as a result of sampling fluctuations. For example, is a difference of 4 percent in marijuana usage between our sample subgroups of women under 25 years of age and women over 30 years evidence of a difference between these two subgroups in the entire population, or could it be reasonably attributable to the random variation associated with using sample data? The answer to this question is obtained by conducting a statistical test of significance.

A statistical test of significance of the difference between the sample estimates for two subgroups starts from a null hypothesis that there is no real difference between the rates for the two subgroups in the population, so that the observed difference is attributable to sampling fluctuations. Based on this null hypothesis, the probability of the occurrence of a sample difference at least as large as the one observed is determined. If that probability is sufficiently small, then the null hypothesis is rejected, and a conclusion is reached that there is a difference between the rates for the two subgroups in the population. In this case, the difference between the sample estimates is said to be statistically significant.

It is common practice to reject the null hypothesis if the probability of obtaining a difference at least as large as the observed difference is 5 percent or less, and any such difference will be characterized as statistically "significant" in this report. In statistical terminology, a 5 percent significance level is used. Thus, if the null hypothesis were true, there is a 5 percent (1 in 20) chance of erroneously concluding that there is a real difference (this type of error is known as a Type I error). Significance at this level is noted as ($p < .05$) in the report. It is also common practice to identify those observed differences with far less chance of occurring if the null hypothesis holds. Those differences between sample estimates with a 1 percent chance of occurring if the null hypothesis were true may be characterized as "highly significant", noted as ($p < .01$) in this report.

The example given above involves only two subgroups, whereas the analyses reported in chapter 4 generally involve more than two subgroups. For instance, one set of analyses involves three race/ethnicity subgroups and another set involves four educational subgroups. The race/ethnicity analyses thus comprise three pairwise comparisons (white vs. Hispanic; white vs. black; and Hispanic vs. black) and the educational analyses comprise 6 pairwise comparisons. When multiple comparisons are made within a given analysis, the chance of finding one or more significant differences by applying a set of pairwise tests as described above when in fact there are no differences between the subgroups in the population, can be much greater than the chosen significance level. To illustrate this point, consider the simple situation of a set of independent significance tests each conducted with a 5 percent significance level, with the null hypothesis true in each case. If the set contains three tests, the probability that one of the tests finds a significant difference is $1 - (0.95)^3 = 0.14$, or 14 percent. When the set contains six tests, the corresponding Type I error probability is increased to 26 percent.

The inflation of the significance level when conducting multiple tests within a given analysis can be avoided by the use of some form of multiple comparison procedure. The Tukey studentized range multiple comparison procedure was used for this purpose in this report. With this procedure, the probability of at least one Type I error among all pairwise comparisons within the given analysis is controlled at the specified significance level (see below for details).

The Tukey procedure assumes the estimates being compared represent observations from a normal population. This assumption was evaluated using a commonly used criterion described below, and those estimates which did not meet the criterion were not reported as "significantly different" from another estimate.

The Tukey approach employed here was limited to controlling the significance level for a specific set of comparisons: all pairwise comparisons for a specified demographic variable (e.g., race/ethnicity) for a specified substance use variable (e.g., alcohol use during the second trimester of pregnancy). No test procedure was used to control the probability of a Type I error across the many different types of substances being analyzed nor across the different demographic variables.

A.10.3.2 Controlling the Type I Error for Multiple Comparisons Using the Tukey Studentized Range Approach

An approach known as the Tukey method (sometimes referred to as the Tukey-Kramer method when unequal sample sizes exist) was employed to control the probability of a Type I error when making all possible pairwise comparisons across the categories of a single demographic variable (e.g., race/ethnicity) for a particular measure of substance use (e.g., marijuana use in the 3 months prior to pregnancy).

Hypothesis tests utilized confidence intervals about the difference $(p_{mit} - p_{mjt'})$ and took the following form:

$$(p_{mit}-p_{mjt'}) \pm \frac{1}{\sqrt{2}} q_{k,d,\alpha} \text{ s.e. } (p_{mit}-p_{mjt'});$$

where

p_{mit} = the estimated prevalence rate of use for substance m, demographic group i, and time t (t´ differs from t only when i and j are the same, where j also indexes a demographic group generally different from i);

$\text{s.e.}(p_{mit}-p_{mjt'})$ = the estimated standard error of the difference $(p_{mit}-p_{mjt'})$ obtained using the jackknife replication method described earlier; and

$q_{k,d,\alpha}$ = the critical value obtained from the studentized range distribution for k demographic groups being compared pairwise, d degrees of freedom, and controlling the probability of a Type I error at the value α.

For the hypothesis tests, the following values of k, d, and α were used:

k varied from 2 to 4

$d = 15$

and

$\alpha = .05$ or $.01$

If a 95 percent confidence interval ($\alpha = .05$) so constructed did not cover the value zero, the difference was characterized as statistically significant at the .05 level. For a 99 percent confidence interval, the corresponding event was characterized as significant at the .01 level.

A.10.3.3 Checks for Normality

The Tukey approach controls the probability of a Type I error at a specific level when the estimates of p_{mit} are approximately normally distributed. When estimated rates are close to zero, as is frequently true of estimates on the reported use of illicit substances, this can be a particular concern. Accordingly, all estimates for which hypothesis tests were conducted were checked to determine if the assumption of normality was reasonable. Specifically, the following quantity was computed:

$$p_{mt} \frac{n_i}{\text{deff}_{mit}};$$

where

p_{mt} = the estimated prevalence rate assuming no differences between demographic groups (e.g., if the age groups "under 25", "25-29", and "30 or more" were being compared, p_{mt} was the estimate for the Nation as a whole for substance m and time t);

n_i = the sample size for demographic group i;

$deff_{mit}$ = the estimated design effect, if greater than 1 (this reflects the increase in variance associated with having obtained the estimate p_{mit} using the complex sample design employed instead of a simple random sample of mothers across the U.S.); and

= 1, otherwise.

This amounts to examining the expected number of mothers in a particular demographic group reporting use of a particular substance at a particular time, under the hypothesis that there is no difference between the groups being compared. If the quantity $p_{mt}\frac{n_i}{deff_{mit}}$ fell below five, findings regarding differences between the estimate p_{mit} and other estimates were not reported, as the assumption of normality was considered questionable.

A.10.4 Estimated Design Effects and Intraclass Correlation Coefficients

Design effects associated with clustering (after accounting for the design effect associated with differential sample weights) and corresponding intraclass correlation coefficients were estimated for several substances (any illicit drug, cocaine, marijuana, alcohol, and cigarettes) and for several distinct time periods (the previous year, the three trimesters of pregnancy, and the last 3 days before giving birth.) These estimates appear in Tables A-16 and A-17, respectively.

An intraclass correlation coefficient ρ_k was estimated by

$$\rho_k = \frac{deff(clus_k) - 1}{\bar{n} - 1}$$

where

$deff\ (clus_k)$ = the design effect associated with clustering for estimate k (both the clustering of mothers within hospitals and hospitals within hospital clusters are reflected by this quantity)

$\bar{n}$ = the average cluster size per hospital cluster

= 2613 SAQ respondents/37 hospital clusters

= 70.6

An intraclass correlation coefficient ρ_k is a measure of the extent to which members of the same cluster respond similarly for a particular estimate. When members of clusters respond similarly, values of ρ_k will be relatively close to 1. If they are relatively heterogeneous, ρ_k will be close to zero. Values of rho below zero are rare and may indicate high variability of the variance estimate.

The largest estimated design effect and intraclass correlation coefficient were only 2.76 and .025, respectively, for alcohol use some time during the year prior to giving birth. These relatively small values suggest that those who report substance use are not highly concentrated within several hospital clusters. It also should be noted that the estimated design effects for cocaine and cigarettes are all less than one (and thus the estimated intraclass correlation coefficients for cocaine and cigarettes are all negative). This indicates the high degree of variability associated with these estimates, resulting from the limited number of degrees of freedom associated with a national sample of 37 PSUs (hospital clusters). However, it also provides further evidence that there is little clustering of reported substance users within hospital clusters.

Table A-16. Estimated design effect associated with clustering

Drug type	Used in last year	Used at 3 months before pregnancy	Used at any time during pregnancy	Used during 1st trimester	Used during 2nd trimester	Used during 3rd trimester	Used 3 days before birth
Any illicit drug	1.84	1.58	1.70	2.66	1.50	1.14	0.82
Cocaine	0.76	0.59	0.60	0.62	0.75	0.37	0.53
Marijuana	1.43	1.43	2.22	2.18	0.95	1.03	0.79
Alcohol	2.76	2.71	1.93	1.55	1.16	1.91	0.49
Cigarette	0.90	0.80	0.93	0.92	0.96	0.82	0.57

Table A-17. Estimated intraclass correlation coefficients for mothers within hospital clusters

Drug type	Used in last year	Used at 3 months before pregnancy	Used at any time during pregnancy	Used during 1st trimester	Used during 2nd trimester	Used during 3rd trimester	Used 3 days before birth
Any illicit drug	0.012	0.008	0.010	0.024	0.007	0.002	-0.003
Cocaine	-0.003	-0.006	-0.006	-0.005	-0.004	-0.009	-0.007
Marijuana	0.006	0.006	0.018	0.017	-0.001	0.000	-0.003
Alcohol	0.025	0.024	0.013	0.008	0.002	0.013	-0.007
Cigarette	-0.001	-0.003	-0.001	-0.001	-0.001	-0.003	-0.006

A.10.5 Suppression Criterion

As indicated in Section 2.2, a criterion was used to decide whether a specific estimate among a group of similar type estimates should not be reported because it was of particularly low precision. Specifically, the criterion was that an estimated prevalence rate p (and its corresponding population total) would be suppressed if

$$\text{RSE}\,[-\ln(p)] > .225, \quad \text{for } p \leq .5$$

or

$$\text{RSE}\,[-\ln(1-p)] > .225, \quad \text{for } p > .5$$

that is, when the relative standard error of the negative of the natural log of p was greater than .225. This was evaluated computationally by determining if

$$\frac{\text{s.e.}(p)\,/\,p}{-\ln(p)} > .225, \quad p \leq .5$$

or

$$\frac{\text{s.e.}(p)\,/\,(1-p)}{-\ln(1-p)} > .225, \quad p > .5$$

This approach was developed and used for the 1991 National Household Survey on Drug Abuse (NHSDA), although the threshold used for the NHSDA was slightly lower (.175 instead of .225).

A.10.6 Chi-Square Tests for Evaluating Response Rate Distributions

To determine whether there were significant demographic differences between participants and nonparticipants, chi-square tests of independence were made comparing distribution by age and race/ethnicity for SAQ respondents and nonrespondents, and for women with and without urine test results—separately for nonblinded and blinded data. Just as the complex nature of the design must be taken into account when computing sampling errors, it must be reflected as well in the chi-square test. For this purpose, a modification developed by Rao and Scott was made to the usual chi-square statistic. Specifically, the statistic χ^2_{RS} was examined where

$$\chi^2_{RS} = \frac{\chi^2}{\bar{b}_{RS}}$$

where

χ^2 = the chi-square statistic for a given cross-tabulation employing the sample weights

$$= \frac{n\sum_{i=1}^{r}\sum_{j=1}^{c}(p_{ij} - p_{i.}p_{.j})^2}{p_{i.}p_{.j}}$$

$p_{i.}$ = the marginal percent associated with row i based on weighted totals

$p_{.j}$ = the marginal percent associated with column j based on weighted totals

p_{ij} = the cell percent associated with cell ij based on weighted totals

$$\bar{b}_{RS} = \frac{n}{(r-1)(c-1)}\left[\sum_{i=1}^{r}\sum_{j=1}^{c}\frac{V_{ij}}{p_{i.}p_{.j}} - \sum_{i=1}^{r}\frac{V_{i.}}{p_{i.}} - \sum_{j=1}^{c}\frac{V_{.j}}{p_{.j}}\right]$$

Discussions of this and alternative statistics are found in the following journal articles:

Rao, J.N.K. and Scott, A.J. (1981). The analysis of categorical data from complex sample surveys: Chi-squared tests for goodness of fit and independence in two-way tables. *Journal of the American Statistical Association* 76, 221-230.

Rao, J.N.K. and Scott, A.J. (1984). On chi-squared tests for multiway contingency tables with cell proportions estimated from survey data. *The Annals of Statistics* 12, 46-60.

Appendix B

Information from Toxicological Tests

INFORMATION FROM TOXICOLOGIC TESTS

B.1 Description of Urine Specimen Collection and Testing

Urine specimens were obtained and tested for specific drugs to provide data on illicit drug use independent from data obtained from use by survey subjects reported in the questionnaire. The hospitals participating in the survey routinely collected specimens from all women admitted to the hospital for delivery. After clinical use, the remainder of the specimens was retained for those selected into the study and tested for metabolites of marijuana, cocaine, opiates, and amphetamines. The specimens were shipped to a central laboratory for testing. Established Federal testing standards and quality control requirements were followed. Positive test results found on the screening assay were confirmed by more sensitive laboratory procedures (gas chromatography or mass spectrometry). The findings reported in this section are based on confirmed test results.

The collected volume of urine was divided into two portions, if the volume was sufficient, and two separate testing procedures were followed. One portion (15 ml) of the volume collected was assigned a random identification number, and links to personal identifiers and the other survey data were eliminated. This specimen was tested without the subject's consent, and the results were referred to as the "blinded" test data. The remaining urine, if any, was tested only with the survey subject's explicit consent, which was solicited from women who completed the questionnaire on substance use (the SAQ). This second specimen was discarded if consent for testing was not obtained. Test results from the second specimen could be linked to data collected for an individual in the questionnaires and medical record abstracts, and were referred to as the "nonblinded" test data. Thus, the blinded data included test results for women who did and did not complete the SAQ, while nonblinded test results were obtained only for women who completed the SAQ and consented to testing. Except for a small number of women (perhaps, less than 20), each specimen tested under the nonblinded procedure should have had a counterpart result in the blinded test data.

The motivation for the urine testing was to provide estimates of illicit drug use in the survey population that were independent of estimates based on self-reported use. As urine testing has often been used as a measure of prenatal drug use, one objective was to provide data for comparison with other published studies. The primary use intended for these data, however, was to assess potential bias in the estimates based on self-report. Comparisons of estimates based on the nonblinded test data with estimates based on the blinded test data provided a crude determination of whether rates for recent drug use among women who completed the questionnaire tended to adequately reflect the rates of illicit drug use in the total sample. The comparison of recent use reported in the questionnaire with nonblinded test results was a measure of the validity of the self-reported data.

It is generally accepted, based on studies of metabolism and elimination, that the metabolites of most popular illicit drugs cannot be detected after about 3 days from the time of use. Marijuana is an exception, and metabolites often can be detected up to about 1 week after use. It is also recognized that cocaine metabolites might be found in the urine for longer than 3 days, depending on frequency and dose. The detection timespan underlies the decision to obtain information in this survey on use of drugs within the last 3 days before delivery, so that urine test results could be compared with responses to the questionnaire. As mentioned, detection in the urine is subject to timing of use and dose, and may vary by specific drug. Nevertheless, for purposes of comparison with use as reported in the questionnaire, a positive urine test result was accepted as use within the last 3 days before delivery. In addition, for purposes of the analysis, reported use within this 3-day period was accepted as accurate even though the urine test was negative for that drug.

The objectives for use of the urine test data require that the test results adequately represent distributions among the study sample. Overall, blinded test results were obtained for 55 percent of the total sample, and nonblinded test results were available for 45 percent of the women who completed the questionnaire on substance use. Analysis showed blinded testing rates varied by both race/ethnic group and age; in particular, observed testing rates were lower for Hispanics and for women in the Other race/ethnic group, and for those under 25 years of age. Nonblinded testing rates were lower for Hispanics, but there were not marked differences among age groups. To the extent that the frequency of women with detectable amounts of drugs in their urine might have been different among those tested and not tested in these subgroups, estimates of illicit drug use based on the test results may not adequately reflect the true values in the population. Further discussion of testing rates may be found in appendix section A.3.

In the following paragraphs, population estimates are developed, and the urine drug test data are applied as described above to assess potential sources of bias in the estimates of drug use based on self-report. Section B.4 concludes the discussion with a comparison of estimates of prenatal drug use developed by different methods from data collected in this survey.

B.2 Weighted Estimates Based on The Urine Test Results

B.2.1 Blinded Test Results (Total Survey Sample)

Only 47 of the 52 sample hospitals participated in the blinded test procedure. To generate estimates from the blinded data, nonblinded test results were substituted for the five other hospitals. The reader is referred to appendix section A.10 for the technical rationale.

Table B-1 provides the unweighted sample distribution of persons with blinded test results, for the original sample from the participating 47 study hospitals and for the supplemented sample for all 52 hospitals. The supplementation added 317 women, increasing the number of women in the blinded study sample from 2,926 to 3,243. Test results available increased from 1,622 to 1,789. The overall percentage of subjects with test results (55 percent) was unchanged, and there were only minor changes in the distributions by race/ethnic group and age. Admission specimens were not collected for almost 43 percent of the sample, and an additional small percentage had insufficient volume to complete the testing.

Table B-1. Blinded urine tests (unweighted sample): Distribution of women with test results, by age and race/ethnicity, original and supplemented sample[1]

Age in years	White, non-Hispanic		Black, non-Hispanic		Hispanic		Other[2]		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Original blinded urine test sample, 47 hospitals										
Under 25	322	30.9	145	52.5	123	46.9	12	27.9	602	37.1
25-29	303	29.1	72	26.1	70	26.7	14	32.6	459	28.3
30 and older	416	40.0	59	21.4	69	26.3	17	39.5	579	35.7
Total	1,041	100.0	276	100.0	262	100.0	43	100.0	1,622	100.0
Race/ethnicity group		64.2		17.0		16.2		2.7		100.0
Supplemented blinded urine test sample, 52 hospitals										
Under 25	348	30.0	157	52.9	135	47.4	13	28.3	653	36.5
25-29	339	29.2	76	25.6	75	26.3	14	30.4	504	28.2
30 and older	474	40.8	64	21.5	75	26.3	19	41.3	632	35.3
Total	1,161	100.0	297	100.0	285	100.0	46	100.0	1,789	100.0
Race/ethnicity group		64.9		16.6		15.9		2.6		100.0

[1] Of the 2,926 women from the 47 hospitals that participated in the blinded urine collection, 1,622 (55.4 percent) had urine test results, and of the 3,243 women in the supplemented sample representing all 52 study hospitals, 1,789 (55.2 percent) had urine test results.

[2] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

Weighted estimates of drug use based on the blinded urine test results are given in table B-2. Only one woman in the survey had a positive urine test for amphetamines, so estimates for these drugs were not computed. It should be noted that the urine tests for opiates were general for any opiate-based drug and were not specific for heroin. There were three women who reported heroin use during pregnancy, and no one reported use of heroin during the last 3 days of the pregnancy. A number of women reported use of prescription analgesics as a general class during the last 3 days before delivery. It is considered likely that ingestion of codeine or morphine compounds accounted for most of the positive urine tests for opiates, although the use of heroin cannot be ruled out based on the test data. The analysis of opiates was limited because of this nonspecificity in both reported use and test results.

Few definite patterns are apparent in table B-2. Rates for positive tests for any drug and for cocaine seem to be the highest among blacks in all age groups, and black rates are observed to increase with age. Marijuana and cocaine positive rates were lowest among Hispanics. The differences among total opiate positive test rates for the race/ethnic groups is quite small (0.4 percent). The range of total rates is somewhat greater among age groups (from 1.1 percent to 2.6 percent), with the highest rate of test positives among those age 25-29. Within demographic groups the rates are quite variable with wide confidence intervals, so that definitive patterns were not readily identified.

Table B-3 shows estimates of use from blinded testing by size of hospital. The smallest rates of marijuana and opiate positives are in the largest hospitals, while the rate of cocaine positives is highest in the largest hospitals. However, the absolute differences among the rates are small, so that these observed associations with hospital size may not be meaningful.

B.2.2 Nonblinded Test Results (Questionnaire Respondents Only)

The nonblinded testing required consent from the questionnaire respondent. While the subject was informed before the interview that permission for testing would be sought, consent was not actually requested until the questionnaire on drug use was completed. Of those who completed the questionnaire, 94.2 percent consented to urine testing. However, urine test results were obtained only for 45.1 percent of the 2,613 questionnaire respondents, primarily because the urine specimen was not available or an insufficient volume remained after pouring off the portion for blinded testing.

The unweighted distribution by age and race/ethnicity of 1,178 mothers with nonblinded urine test results is given in table B-4. Percentages in this table may be compared with the distribution of all questionnaire respondents, provided in chapter 3. The percentage of whites with test results (64.3 percent) was slightly higher than the percentage of whites among all respondents (56.6 percent), while percentages tested of blacks and Hispanics were slightly lower than their representation in the questionnaire sample: blacks, 16.5 percent vs. 19.2 percent; Hispanics, 16.0 percent vs. 18.9 percent. There also were small differences by age between

Table B-2. Weighted[1] percentage estimates of recent illicit drug use during pregnancy based on blinded urine tests, selected substances, by race/ethnicity and age

Positive test for	Age in years	Blinded urine test results							
		White, non-Hispanic		Black, non-Hispanic		Hispanic		Total[2]	
		Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
Any drug[3]	Under 25	2.5	1.2 - 5.0	4.7	2.0 - 10.8	(no)	(no) - (no)	2.4	1.4 - 4.1
	25-29	5.8	3.6 - 9.3	8.8	3.8 - 18.9	5.9	1.7 - 18.7	6.1	4.2 - 8.8
	30 and older	3.9	2.0 - 7.5	20.3	10.4 - 35.7	***	*** - ***	5.3	3.4 - 8.3
	Total	4.0	2.8 - 5.7	8.6	5.7 - 12.8	2.0	0.6 - 6.3	4.4	3.4 - 5.6
Marijuana	Under 25	1.7	0.7 - 4.0	***	*** - ***	(no)	(no) - (no)	1.0	0.4 - 2.3
	25-29	3.0	1.4 - 6.3	***	*** - ***	(no)	(no) - (no)	2.4	1.2 - 4.9
	30 and older	1.8	0.8 -- 3.9	6.0	2.1 - 16.4	(no)	(no) - (no)	2.1	1.1 - 3.8
	Total	2.1	1.4 - 3.2	2.0	0.8 - 4.7	(no) ***	(no) - (no)	1.7	1.2 - 2.5
Cocaine	Under 25	(no)	(no) - (no)	2.0	0.6 - 6.4	(no)	(no) - (no)	0.4	0.1 - 1.5
	25-29	0.5	0.1 - 2.5	6.5	2.5 - 15.7	(no)	(no) - (no)	1.3	0.6 - 2.9
	30 and older	0.3	0.1 - 1.8	14.9	7.0 - 28.8	***	*** - ***	2.0	1.1 - 3.6
	Total	0.3	0.1 - 0.9	5.5	3.3 - 9.1	0.5	0.1 - 4.9	1.2	0.7 - 1.9
Opiates	Under 25	0.8	0.2 - 2.9	2.8	0.8 - 9.1	(no)	(no) - (no)	1.1	0.4 - 2.7
	25-29	2.4	0.6 - 9.3	***	*** - ***	5.9	1.7 - 18.7	2.6	1.3 - 5.3
	30 and older	1.9	0.8 - 4.3	***	*** - ***	***	*** - ***	1.8	0.9 - 3.7
	Total	1.7	0.7 - 4.0	2.1	0.9 - 4.9	2.0	0.6 - 6.3	1.8	1.0 - 3.1

[1] See appendix A-10 for estimation procedure. As test data were available for only 55 percent of the sample subjects in this analysis, these results should be interpreted with caution.

[2] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

[3] Positive test for marijuana, cocaine, opiates, or amphetamines.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table B-3. Weighted[1] percentage estimates of recent illicit drug use during pregnancy based on blinded urine test results, selected substances, by hospital size

Hospital size (Annual births)	Blinded urine test results							
	Any drug tested (2)		Marijuana		Cocaine		Opiates	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
Less than 1,000 births	5.0	2.8 - 8.8	1.7	0.8 - 3.5	0.6	0.2 - 2.0	2.7	1.0 - 6.8
1,000-1,999 births	4.5	2.8 - 7.2	2.3	1.2 - 4.5	0.9	0.3 - 2.6	1.4	0.6 - 3.3
2,000-2,999 births	3.8	2.1 - 6.7	1.7	0.8 - 3.8	0.5	0.1 - 2.5	1.9	0.9 - 4.0
3,000 or more births	4.3	2.4 - 7.8	1.4	0.6 - 3.1	2.7	1.5 - 5.0	0.9	0.3 - 2.5

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[1] See appendix A for estimation procedure. As test data were available for only 55 percent of the sample subjects in this analysis, these results should be interpreted with caution.

[2] Positive test for marijuana, cocaine, opiates, or amphetamines.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

Table B-4. Nonblinded urine tests (unweighted sample): Distribution of women with test results, by age and race/ethnicity[1]

Age in years	White, non-Hispanic		Black, non-Hispanic		Hispanic		Other[2]		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 25	222	29.3	103	53.1	103	54.8	17	43.6	445	37.8
25-29	216	28.5	44	22.7	44	23.4	9	23.1	313	26.6
30 and older	319	42.1	47	24.2	41	21.8	13	33.3	420	35.7
Total	757	100.0	194	100.0	188	100.0	39	100.0	1,178	100.0
Race/ethnicity group		64.3		16.5		16.0		3.3		100.0

[1] Of the 2,613 respondents to the questionnaire on substance use, 1,178 (45.1 percent) had urine test results.

[2] Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

percentage tested and percentage of all respondents: under 25 years, 37.8 percent vs. 40.4 percent; age 25-29 years, 26.6 percent vs. 27.1 percent; and age 30 years and older, 35.7 percent vs. 32.6 percent.

Weighted percentage estimates of drug use based on the nonblinded test data are provided in table B-5. The reader is reminded that the rates for opiates most likely represent use of codeine or morphine compounds. Generally, these rates were low with small differences among groups. Black rates were substantially higher for any illicit drug use and cocaine use, in comparison to the rates for the other race/ethnic groups. The differences in rates of test positives for marijuana and opiates by race/ethnicity were small, as were differences by age for all drug categories. Weighted estimates by hospital size also have been provided from the nonblinded tests, as shown in table B-6. The only observations of note were that the observed rate of positive tests in the largest hospitals was highest for any drug tested and probably highest also for cocaine; this pattern corresponded to the distribution of black respondents.

B.3 Assessment of Potential Bias

The limited coverage of the urine test data has been described. Nevertheless, it appears that these data can provide some insight into the likely extent of potential bias in the estimates of recent drug use based on self-report. It must be recognized, however, that these data pertain only to the last few days of the pregnancy. Inferences of drug use behavior earlier in pregnancy, or of the misreporting of that behavior, based on these findings cannot be supported.

B.3.1 Potential Bias Due to Questionnaire Nonresponse

Comparison of the weighted estimates from the blinded test results with those from the nonblinded test results provides a crude measure of whether the questionnaire respondents were similar to the total sample in terms of recent drug use; if not, the estimates based on self-report may be affected by selection bias. That is, one might suspect that women who recently used drugs might have refused testing, or refused both completion of the questionnaire and testing, more often than women who had not used drugs. Approximately 66 percent (1,178/1,789) of the blinded procedure test results on which the blinded estimates are based represent women who completed the questionnaire, consented to testing, and had an adequate urine specimen – although in perhaps 20 or fewer cases, due to clerical errors, there were no matching blinded test results for a woman having nonblinded results. The remaining 34 percent of the blinded data is for women who did not have an adequate nonblinded specimen, refused testing after questionnaire completion, or refused to complete the questionnaire and testing. If the rate of positive drug tests was substantially higher among this 34 percent of women who had blinded test results but did not have nonblinded test results, estimates from the blinded test results would be correspondingly higher than the nonblinded positive test rates.

Table B-5. Weighted[1] percentage estimates of recent illicit drug use during pregnancy based on nonblinded urine tests, selected substances, by race/ethnicity and age

		Nonblinded urine test results							
		White, non-Hispanic		Black, non-Hispanic		Hispanic		Total[2]	
Positive test for	Age in years	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
Any drug[3]	Under 25	3.1	1.0 - 8.7	4.7	1.1 - 17.7	***	*** - ***	2.9	1.2 - 6.6
	25-29	3.5	1.3 - 9.3	7.5	2.3 - 22.1	***	*** - ***	3.8	1.8 - 7.7
	30 and older	1.8	0.7 - 4.2	21.5	10.6 - 38.9	(no)	(no) - (no)	3.6	2.0 - 6.4
	Total	2.7	1.5 - 4.6	9.0	5.4 - 14.8	0.9	0.1 - 8.1	3.4	2.3 - 4.8
Marijuana	Under 25	2.1	0.5 - 8.3	(no)	(no) - (no)	***	*** - ***	1.3	0.4 - 4.8
	25-29	2.0	0.5 - 7.7	(no)	(no) - (no)	(no)	(no) - (no)	1.4	0.3 - 5.6
	30 and older	0.9	0.2 - 3.1	***	*** - ***	(no)	(no) - (no)	1.2	0.4 - 3.3
	Total	1.6	0.7 - 3.6	1.2	0.3 - 5.5	0.5	0.0 - 4.4	1.3	0.7 - 2.5
Cocaine	Under 25	(no)	(no) - (no)	1.8	0.3 - 9.8	(no)	(no) - (no)	0.4	0.1 - 2.0
	25-29	(no)	(no) - (no)	7.5	2.3 - 22.1	(no)	(no) - (no)	1.0	0.3 - 3.3
	30 and older	0.2	0.0 - 3.2	***	*** - ***	(no)	(no) - (no)	1.7	0.7 - 4.4
	Total	0.1	0.0 - 1.4	6.3	3.3 - 11.6	(no)	(no) - (no)	1.0	0.5 - 2.0
Opiates	Under 25	1.0	0.2 - 4.1	2.9	0.5 - 13.8	(no)	(no) - (no)	1.2	0.4 - 3.2
	25-29	1.6	0.4 - 6.2	(no)	(no) - ***	***	*** - ***	1.3	0.4 - 4.6
	30 and older	0.7	0.2 - 2.9	(no)	(no) - (no)	(no)	(no) - (no)	0.6	0.2 - 2.3
	Total	1.1	0.4 - 2.7	1.5	0.3 - 7.5	0.5	0.1 - 4.4	1.0	0.5 - 2.1

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[1] See appendix A for estimation procedure. As test data were available for only 45 percent of the sample subjects in this analysis, these results should be interpreted with caution.

[2] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

[3] Positive test for marijuana, cocaine, opiates, or amphetamines.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table B-6. Weighted[1] percentage estimates of recent illicit drug use during pregnancy based on nonblinded urine test results, selected substances, by hospital size

Hospital size	Nonblinded urine test results							
	Any drug tested[1]		Marijuana		Cocaine		Opiates	
(Annual births)	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
Less than 1,000 births	2.4	1.1 - 5.0	1.3	0.5 - 3.8	***	*** - ***	1.0	0.3 - 3.1
1,000-1,999 births	2.3	0.9 - 5.7	1.2	0.2 - 7.4	***	*** - ***	1.0	0.3 - 3.4
2,000-2,999 births	2.8	1.0 - 7.7	1.3	0.4 - 4.1	0.3	0.0 - 3.4	1.2	0.4 - 3.9
3,000 or more births	5.3	2.3 - 12.1	0.8	0.2 - 3.8	3.7	1.3 - 10.0	0.8	0.1 - 6.2

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[1] See appendix A for estimation procedure. As test data were available for only 45 percent of the sample subjects in this analysis, these results should be interpreted with caution.

[2] Positive test for marijuana, cocaine, opiates, or amphetamines.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Estimates taken from tables B-2 and B-5 are combined in table B-7. As the estimates by age within race/ethnic groups were highly variable, which is indicated by the wide confidence intervals, statistical comparisons were limited to the marginal rates for the race/ethnic groups and age groups. Furthermore, it was considered more appropriate to focus primarily on marijuana and cocaine test rates, as opiate tests could not be linked to specific illicit drug use.

The observed overall estimates from the blinded data were slightly higher than the nonblinded estimates for both marijuana and cocaine; the blinded and nonblinded estimates were, respectively, for marijuana, 1.7 percent vs. 1.3 percent, and for cocaine, 1.2 percent vs. 1.0 percent.

The size and direction of differences between blinded and nonblinded estimates for both marijuana and cocaine use varied among race/ethnic groups and age groups. Blinded estimates for marijuana use were higher than nonblinded estimates for whites and blacks, but not for Hispanics. The comparative rates for marijuana use by race/ethnic group were whites, 2.1 percent vs. 1.6 percent, and blacks, 2.0 percent vs. 1.2 percent. By age group, the respective blinded and nonblinded rates were under 25 years, 1.0 percent vs. 1.3 percent; 25-29 years, 2.4 percent vs. 1.4 percent; and 30 years and older, 2.1 percent vs. 1.2 percent.

In regard to cocaine use, blinded rates were somewhat higher than nonblinded rates for whites and Hispanics. Blinded rates for blacks were somewhat lower than the nonblinded rate: 5.5 percent vs. 6.3 percent. There were small or no differences between estimates of cocaine use by age. Blinded and nonblinded rates were, respectively, for women under 25 years, 0.4 percent vs. 0.4 percent; women age 25-29 years, 1.3 percent vs. 1.0 percent; and those age 30 years and older, 2.0 percent vs. 1.7 percent.

Although these data suggest that there may have been higher rates of use among women in some race/ethnic and age groups who did not complete the questionnaire on substance use, none of the observed differences were statistically significant. Thus, these differences may be due more to sampling variability than real indicators of selection bias. Statistical tests of differences between blinded and nonblinded rates of opiate positives were not made, but there were only small differences by age or by race/ethnicity.

B.3.2 Potential Bias Due to Underreporting of Drug Use

Some information on the validity of questionnaire responses on recent drug use can be obtained by comparing rates of self-reported use during the last 3 days before delivery with estimated rates based on the nonblinded urine tests. It was mentioned earlier that a high proportion (94 percent) of women who completed the questionnaire on substance use also consented to urine testing, but that test results were available for only 45 percent of these women. Admission specimens were not collected for about 45 percent of the SAQ respondents; the loss of the remaining tests was due to refusal of testing or insufficient urine to complete both blinded and nonblinded testing.

Table B-7. Comparison of estimated percentages of recent marijuana and cocaine use based on positive nonblinded and blinded urine test results, by race/ethnicity and age

	Nonblinded urine test		Blinded urine test	
	Estimate	95% C.I.	Estimate	95% C.I.
	Marijuana			
Race/ethnicity				
White, non-Hispanic	1.6	0.7 - 3.6	2.1	1.4 - 3.2
Black, non-Hispanic	1.2	0.3 - 5.5	2.0	0.8 - 4.7
Hispanic	0.5	0.0 - 4.4	(no)	(no) - (no)
Total	1.3	0.7 - 2.5	1.7	1.2 - 2.5
Age in years				
Under 25 years	1.3	0.4 - 4.8	1.0	0.4 - 2.3
25-29 years	1.4	0.3 - 5.6	2.4	1.2 - 4.9
30 years and older	1.2	0.4 - 3.3	2.1	1.1 - 3.8
Total	1.3	0.7 - 2.5	1.7	1.2 - 2.5
	Cocaine (All forms)			
Race/ethnicity				
White, non-Hispanic	0.1	0.0 - 1.4	0.3	0.1 - 0.9
Black, non-Hispanic	6.3	3.3 - 11.6	5.5	3.3 - 9.1
Hispanic	(no)	(no) - (no)	0.5	0.1 - 4.9
Total	1.0	0.5 - 2.0	1.2	0.7 - 1.9
Age in years				
Under 25 years	0.4	0.1 - 2.0	0.4	0.1 - 1.5
25-29 years	1.0	0.3 - 3.3	1.3	0.6 - 2.9
30 years and older	1.7	0.7 - 4.4	2.0	1.1 - 3.6
Total	1.0	0.5 - 2.0	1.2	0.7 - 1.9

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

Estimates from self-reported use and use indicated by positive nonblinded urine tests are compared in table B-8 for marijuana and cocaine use. For recent marijuana use, the estimated overall rate from urine tests was slightly higher than the rate from self-report: 1.3 percent vs. 1.0 percent. In whites, the rate based on positive tests also was higher than the reported rate, 1.6 percent vs. 1.0 percent, but the reverse was true for blacks, 1.2 percent vs. 1.8 percent. Differences between Hispanic rates could not be assessed. Rates based on nonblinded tests were consistently higher than reported rates in each age group. Comparative rates by age were: under 25 years, 1.3 percent vs. 1.0 percent; 25-29 years, 1.4 percent vs. 1.1 percent; and age 30 years and older, 1.2 percent vs. 0.8 percent. In statistical comparisons between rates of recent marijuana use based on self-report and nonblinded tests, neither the difference in the overall rates nor differences between rates for race/ethnic or age groups achieved statistical significance.

In regard to cocaine use, no whites or Hispanics reported use of cocaine within the last 3 days before delivery, only blacks. Further, only one white questionnaire respondent had a positive test for cocaine, and the remainder of the positive tests were for blacks. Thus, the estimates in table B-8 essentially represent recent cocaine use by blacks. It is seen that the nonblinded positive test estimate for blacks was substantially higher than the rate from self-report, 6.3 percent vs. 0.9 percent, and this difference was statistically significant ($p < .05$). The observed rates from nonblinded urine tests were higher than reported rates in each age group. The respective rates by age were: under 25 years, 0.4 percent vs. no reported use; age 25-29 years, 1.0 percent vs. 0.3 percent; and age 30 years and older, 1.7 percent vs. 0.2 percent. However, none of the differences between age groups was significant.

These results suggest that, to the extent that can be determined by urine testing, misreporting of recent marijuana use may have been negligible but recent cocaine use was significantly underreported. Opiate weighted estimates were not included in table B-7 as recent use of opiates were not asked specifically in the questionnaire. However, some further information is presented later.

To gain some additional insight into the reporting of marijuana and cocaine use, it is useful to directly compare the unweighted frequencies of self-reports and urine test results. These are presented in tables B-9 and B-10 for marijuana and cocaine, respectively. The unweighted sample observations in these two tables include all women who used one of these drugs within a few days before admission to the hospital, as determined by self-report and/or positive nonblinded urine test. Women who did not admit use, and who had negative urine tests or no urine test, were omitted from these tables. Although the unweighted frequencies are small, these tables suggest several interesting points and provide some insight into the complexity of interpreting drug test results.

In these tables, the column "Reported Use in Last 3 Days" gives the number of respondents who did ("Yes") or did not ("No") admit recent use in the questionnaire. Reading across, the next section gives the corresponding number with positive or negative test results, for those who did report use (those in the "Yes" row), and positive test results for those who did not report use (the "No" row). The next section shows the remaining number of women who reported

Table B-8. Comparison of estimated percentages of recent marijuana and cocaine use based on self-reported use within the last 3 days before delivery and positive nonblinded urine test results, by race/ethnicity and age

	Self-reported use, last 3 days		Nonblinded urine test	
	Estimate	95% C.I.	Estimate	95% C.I.
	Marijuana			
Race/ethnicity				
White, non-Hispanic	1.0	0.6 - 1.8	1.6	0.7 - 3.6
Black, non-Hispanic	1.8	0.9 - 3.6	1.2	0.3 - 5.5
Hispanic	***	*** - ***	0.5	0.0 - 4.4
Total	1.0	0.6 - 1.5	1.3	0.7 - 2.5
Age in years				
Under 25 years	1.0	0.3 - 2.7	1.3	0.4 - 2.3
25-29 years	1.1	0.4 - 2.7	1.4	0.3 - 4.9
30 years and older	0.8	0.3 - 2.0	1.2	0.4 - 3.8
Total	1.0	0.6 - 1.5	1.3	0.7 - 2.5
	Cocaine (All forms)			
Race/ethnicity				
White, non-Hispanic	(no)	(no) - (no)	0.1	0.0 - 1.4
Black, non-Hispanic	0.9	0.3 - 2.5	6.3	3.3 - 11.6
Hispanic	(no)	(no) - (no)	(no)	(no) - (no)
Total	0.2	0.1 - 0.4	1.0	0.5 - 2.0
Age in years				
Under 25 years	(no)	(no) - (no)	0.4	0.1 - 2.0
25-29 years	0.3	0.1 - 1.3	1.0	0.3 - 3.3
30 years and older	0.2	0.0 - 1.0	1.7	0.7 - 4.4
Total	0.2	0.1 - 0.4	1.0	0.5 - 2.0

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

Table B-9. Unweighted frequencies: Comparison of marijuana use reported in last 3 days before delivery with nonblinded urine test results, by race/ethnicity and age[1]

Race/ethnicity	Age in years	Reported use in last 3 days	With nonblinded urine test result			With no urine test	Total users - report or positive test
			Positive	Negative	Total		
White, non-Hispanic	Under 25	Yes	5	1	6	1	7
		No	1	---	1	---	1
	25-29	Yes	1	0	1	4	5
		No	3	---	3	---	3
	30 and older	Yes	3	1	4	0	4
		No	1	---	1	---	1
	Total	Yes	9	2	11	5	16
		No	5	---	5	---	5
Black, non-Hispanic	Under 25	Yes	0	1	1	4	5
		No	0	---	0	---	0
	25-29	Yes	0	0	0	3	3
		No	0	---	0	---	0
	30 and older	Yes	2	0	2	1	3
		No	0	---	0	---	0
	Total	Yes	2	1	3	8	11
		No	0	---	0	---	0
Hispanic	Under 25	Yes	0	0	0	0	0
		No	1	---	1	---	1
	25-29	Yes	0	0	0	1	1
		No	0	---	0	---	0
	30 and older	Yes	0	0	0	0	0
		No	0		0		0
	Total	Yes	0	0	0	1	1
		No	1	---	1	---	1
Total	Under 25	Yes	5	2	7	5	12
		No	2	---	2	---	2
	25-29	Yes	1	0	1	8	9
		No	3	---	3	---	3
	30 and older	Yes	5	1	6	1	7
		No	1	---	1	---	1
	Total	Yes	11	3	14	14	28
		No	6	---	6	---	6

---

[1] Persons who did not report use in the last 3 days before delivery and who had no urine test or a negative test result are not included in this table.

Table B-10. Unweighted frequencies: Comparison of cocaine use (all forms) reported in last 3 days before delivery with nonblinded urine test results, by race/ethnicity and age[1]

Race/ethnicity	Age in years	Reported use in last 3 days	With nonblinded urine test			With no urine test	Total users - report or positive test
			Positive	Negative	Total		
White, non-Hispanic	Under 25	Yes	0	0	0	0	0
		No	0	---	0	---	0
	25-29	Yes	0	0	0	0	0
		No	0	---	0	---	0
	30 and older	Yes	0	0	0	0	0
		No	1	---	1	---	1
	Total	Yes	0	0	0	0	0
		No	1	---	1	---	1
Black, non-Hispanic	Under 25	Yes	0	0	0	0	0
		No	2	---	2	---	2
	25-29	Yes	0	0	0	3	3
		No	3	---	3	---	3
	30 and older	Yes	1	1	2	1	3
		No	5	---	5	---	5
	Total	Yes	1	1	2	4	6
		No	10	---	10	---	10
Hispanic	Under 25	Yes	0	0	0	0	0
		No	0	---	0	---	0
	25-29	Yes	0	0	0	0	0
		No	0	---	0	---	0
	30 and older	Yes	0	0	0	0	0
		No	0	---	0	---	0
	Total	Yes	0	0	0	0	0
		No	0	---	0	---	0
Total	Under 25	Yes	0	0	0	0	0
		No	2	---	2	---	2
	25-29	Yes	0	0	0	3	3
		No	3	---	3	---	3
	30 and older	Yes	1	1	2	1	3
		No	6[2]	---	6[2]	---	62
	Total	Yes	1	1	2	4	6[2]
		No	11[2]	---	11[2]	---	11[2]

---

[1] Women who did not report use in the last 3 days before delivery and who had no urine test or a negative test result are not included in this table.

[2] Does not include one additional woman in the Other race/ethnicity category who was positive for cocaine.

use, but who did not have a urine test. The final section shows the total number of users identified by self-report (total for the "Yes" row) or a positive urine test alone (total for the "No" row). The sum of these numbers is the total number of "users" identified in that race/ethnic and age group.

Marijuana Use

Turning to the data for marijuana in table B-9, a total of 17 (11+6) women had positive test results, while 3 women who reported use in the days before delivery had a negative test result. There were 14 additional women who reported recent use but were not tested, giving an overall total of 28 mothers who reported use of marijuana near their delivery date. Of the 20 women tested and identified as recent users (by self-report or positive test), 14 admitted use and 6 did not, and 5 of these 6 were white. This indicates that there was some underreporting of recent use of marijuana, primarily by white women. However, as noted earlier, the difference between estimated rates of white use based on self-report and on nonblinded testing was not significant. This is because the unweighted numerators in these rates were about the same: a total of 16 white women reported recent use, and there were 14 positive nonblinded tests among white women. Regarding the rate of marijuana use for the entire pregnancy, 42 white women reported use at some time during pregnancy. Only 3 of the 14 white women with positive tests did not report any use during pregnancy. The addition of these three would have resulted in a negligible increase in the estimated white rate based on self-report alone.

Cocaine Use

Reviewing corresponding data for cocaine use (table B-10), 12 (1+11) women had positive test results. There were four additional women who reported recent use but were not tested, giving an overall total of six mothers who reported use of cocaine near their delivery date. Of the 13 women tested and identified as recent users (by self-report or positive test), 2 admitted use and 11 did not; 10 of these 11 were black, and 8 of the 10 blacks were in the two older age groups. Thus, in contrast with the findings for marijuana, there was marked underreporting of recent cocaine use by older blacks, resulting in the statistically significant difference between weighted rates based on self-report and nonblinded testing noted earlier. The estimated black rate of cocaine use for the entire pregnancy included 22 women who reported use at some time in this period; most of these women were in the two older age groups. Of the 11 black women with positive tests, 6 did not report any use during pregnancy, and inclusion of these 6 would have resulted in a nontrivial increase in the estimated black rate based on self-report alone.

Opiates

A straightforward comparison of reported recent use of opiates and urine test results could not be made. The questionnaire asked for information on use of heroin and on use of prescription analgesic drugs as a class; the latter would include opiate-based analgesics. The urine assays detected presence of opiate metabolites and determined the quantitative levels of morphine and codeine, but the tests did not specifically identify the use of heroin. Nevertheless, the available data provide some insight into the completeness of opiate reporting.

For the last 3 days before delivery, no respondent reported heroin use and 27 women reported use of prescription analgesics. Of those reporting analgesics, 14 of the 15 who were tested had negative results for opiates. There were 11 additional positive opiate urine tests for respondents who did not report recent analgesic use, or use of either heroin or any analgesics at any time during pregnancy.

Of the 12 positive tests, both morphine and codeine were present in 3, but only morphine was confirmed in the other 9 specimens. The high levels of codeine in the former group suggested that these were most likely codeine-containing medications, while the latter group of nine test positives could have reflected either morphine or heroin use.

Thus, it appears that few of those reporting recent use of prescription analgesics used opiate-based drugs, while most of those who did use opiate-based drugs recently were reluctant to admit their use. Only three women reported use of heroin at any time during pregnancy. If the nine specimens positive for only morphine do indicate the use of heroin, the actual rates for this drug were substantially underestimated based on self-reports.

B.4 Comparative Estimates by Different Methods

Most published investigations of prenatal drug exposure have based estimates either on self-reported use or urine test results, or on a combination of these sources. For the convenience of the reader in comparing the findings from this study with those from other studies, estimates based on the three approaches are summarized in table B-11, for marijuana and cocaine use.

The first set of estimates are those based on self-report alone from questionnaire respondents, as presented earlier in this report. These estimates cover reported use at any time during the entire pregnancy. The second set of estimates (in the middle section of the table) are a combination, adding women detected by positive admission urine test alone to those reporting use at any time during pregnancy – this reflects any increase in a rate by including the additional users. The right-hand section of the table repeats estimates from the blinded urine test data, which represents rates of use relying on admission urine test alone but for the total sample of women.

It is seen that there are few differences of note among the estimates. The greatest effect of adding the users identified by nonblinded urine test results to those identified by self-report, is seen in the rate of cocaine use among blacks, as just discussed. In general, estimates from the questionnaire appear to be more consistent than those from the blinded urine testing alone, and provide a better overall perspective on use during pregnancy. However, the difference in estimates for cocaine use by blacks emphasizes the prudence of employment of some reliable toxicological method to enable detection of deficiencies in self-reported data.

Table B-11. Use of marijuana and cocaine (all forms) during pregnancy: Comparison of weighted estimates based on self-report alone, on self-report combined with nonblinded urine test positives, and on blinded positive urine tests, by race/ethnicity - percentage, total U.S.

	Estimated rate of use during pregnancy based on questionnaire respondents				Estimated rate of use based on positive blinded urine test results for total study sample[3]	
	By self-report alone[1]		Combined positives from self-report and nonblinded urine test results[2]			
Drug and race/ethnicity	Estimated percentage	95% C.I.	Estimated percentage	95% C.I.	Estimated percentage	95% C.I.
Marijuana						
White, non-Hispanic	3.0	1.6 - 5.4	3.2	1.8 - 5.5	2.1	1.4 - 3.2
Black, non-Hispanic	4.6	3.0 - 7.1	4.6	3.0 - 7.1	2.0	0.8 - 4.7
Hispanic	1.5	0.5 - 3.9	1.6	0.7 - 3.9	(no)	(no) - (no)
Total[4]	2.9	1.9 - 4.5	3.1	2.0 - 4.6	1.7	1.2 - 2.5
Cocaine[5]						
White, non-Hispanic	0.4	0.1 - 1.1	0.4	0.1 - 1.1	0.3	0.1 - 0.9
Black, non-Hispanic	4.5	2.9 - 7.0	5.6	3.7 - 8.4	5.5	3.3 - 9.1
Hispanic	0.7	0.2 - 2.7	0.7	0.2 - 2.7	0.5	0.1 - 4.9
Total[4]	1.1	0.8 - 1.7	1.3	0.9 - 1.9	1.2	0.7 - 1.9

[1] Self-reported use at any time during pregnancy.

[2] Based on women reporting use at any time during pregnancy plus users identified by nonblinded positive urine tests alone.

[3] Based on all women in sample with blinded positive urine test results. Generally covers only last 3 days before delivery.

[4] Includes Other race/ethnicity: Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

[5] Includes all forms of cocaine use.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

Appendix C

Estimates of Substance Use During Pregnancy for Metropolitan Areas

ESTIMATES OF SUBSTANCE USE DURING PREGNANCY FOR METROPOLITAN AREAS

The main body of this report provides estimates of prenatal substance use for all U.S. live births. Estimates were also made for mothers delivering live-born infants in metropolitan areas of the country (although they may not have resided in a metropolitan area). Tables C-1 through C-4 are similar to those found in chapter 3, and present data on the distribution of the survey sample and the target population for metropolitan areas. Tables C-5 through C-11 are counterparts for metropolitan areas of selected tables of estimated substance use found in chapter 4.

Table C-1. Unweighted sample[1] of women delivering live births in metropolitan area survey hospitals, by age and race/ethnicity

Race/ethnicity	White, non-Hispanic		Black, non-Hispanic		Hispanic		Other[2]		Total sample	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
	Respondents in metropolitan area hospitals									
Age in years										
Under 18	41	3.0	42	8.7	40	8.2	4	4.9	127	5.2
18-24	382	27.8	220	45.5	219	44.9	32	39.0	853	35.2
25-29	403	29.4	113	23.4	121	24.8	18	22.0	655	27.0
30-34	400	29.1	77	15.9	71	14.6	17	20.7	565	23.3
35 and older	147	10.7	32	6.6	37	7.6	11	13.4	227	9.4
All ages	1,373	100.0	484	100.0	488	100.0	82	100.0	2,427	100.0
Race/ethnicity group (percent)		56.6		19.9		20.1		3.4		100.0

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[1] Respondents to questionnaire on substance use.

[2] Includes Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

Table C-2. Unweighted sample[1] of women delivering live births in metropolitan area survey hospitals, by selected demographic characteristics and race/ethnicity

Demographic characteristic	Race/ethnicity							
	White, non-Hispanic		Black, non-Hispanic		Hispanic		Total[2]	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Marital status								
Married	1,105	80.5	114	23.6	294	60.2	1,565	64.5
Not married	268	19.5	370	76.4	194	39.8	862	35.5
Living with person	127	9.2	71	14.7	80	16.4	289	11.9
Never married	102	7.4	258	53.3	90	18.4	463	19.1
Other[3]	39	2.8	41	8.5	24	4.9	110	4.5
Total sample	1,373	100.0	484	100.0	488	100.0	2,427	100.0
Mother's education								
Less than 12 years	206	15.0	153	31.6	251	51.4	630	26.0
12 years	469	34.2	222	45.9	151	30.9	864	35.6
13-15 years	327	23.8	78	16.1	61	12.5	486	20.0
16 years or more	371	27.0	31	6.4	25	5.1	447	18.4
Total sample	1,373	100.0	484	100.0	488	100.0	2,427	100.0
Annual household income								
$8,450 or less	93	6.8	172	35.5	154	31.6	441	18.2
$8,451-$14,850	133	9.7	89	18.4	101	20.7	331	13.6
$14,851-21,300	120	8.7	73	15.1	76	15.6	279	11.5
$21,301-$30,000	201	14.6	58	12.0	48	9.8	319	13.1
$30,001-$50,000	405	29.5	66	13.6	69	14.1	558	23.0
Over $50,000	421	30.7	26	5.4	40	8.2	499	20.6
Total sample	1,373	100.0	484	100.0	488	100.0	2,427	100.0
Mother's employment status								
Working	853	62.1	242	50.0	214	43.9	1,353	55.7
Not working	520	37.9	242	50.0	274	56.1	1,074	44.3
Unemployed	51	3.7	44	9.1	27	5.5	125	5.2
Homemaker	393	28.6	88	18.2	183	37.5	684	28.2
Attending school	76	5.5	110	22.7	64	13.1	265	10.9
Total sample	1,373	100.0	484	100.0	488	100.0	2,427	100.0
Number of prenatal visits								
Less than 5	26	1.9	54	11.2	40	8.2	125	5.2
5 - 10	288	21.0	176	36.4	209	42.8	704	29.0
11-16	901	65.6	193	39.9	194	39.8	1,325	54.6
17 or more	158	11.5	61	12.6	45	9.2	273	11.2
Total sample	1,373	100.0	484	100.0	488	100.0	2,427	100.0
Method of hospital payment								
Private source	1,037	75.5	108	22.3	185	37.9	1,371	56.5
Public aid	336	24.5	376	77.7	303	62.1	1,056	43.5
Total sample	1,373	100.0	484	100.0	488	100.0	2,427	100.0
Hospital size (annual births)								
Less Than 1,000	287	20.9	67	13.8	90	18.4	453	18.7
1,000 - 1,999	389	28.3	52	10.7	96	19.7	549	22.6
2,000 - 2,999	335	24.4	122	25.2	120	24.6	596	24.6
3,000 or more	362	26.4	243	50.2	182	37.3	829	34.2
Total sample	1,373	100.0	484	100.0	488	100.0	2,427	100.0

[1] Respondents to questionnaire on substance use.

[2] Includes Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

[3] Divorced, separated, widowed.

Table C-3. Estimated number and percent distribution of women delivering live births annually, by age and race/ethnicity: U.S. metropolitan areas[1]

	Race/ethnicity				
Race/ethnicity	White, non-Hispanic	Black, non-Hispanic	Hispanic	Other[2]	Total
			Percentage		
Age in years					
Under 18	3.0	7.6	8.2	4.3	4.8
18-24	28.0	46.2	43.9	36.9	34.4
25-29	28.6	23.9	25.7	21.1	27.0
30-34	30.1	16.0	15.1	25.1	24.8
35 and older	10.3	6.2	7.1	12.6	9.1
All ages	100.0	100.0	100.0	100.0	100.0
Race/ethnic group (percent)	60.6	17.3	18.3	3.8	100.0
			Number		
Age in years					
Under 18	62,776	46,018	52,205	5,696	166,695
18-24	593,157	280,326	280,957	49,128	1,203,568
25-29	607,756	145,207	164,413	28,053	945,430
30-34	639,530	97,179	96,755	33,447	866,911
35 and older	218,438	37,575	45,560	16,759	318,333
All ages	2,121,658	606,305	639,891	133,083	3,500,937

[1] Refers to place of delivery. See chapter 2 for explanation of estimates.
[2] Includes Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

Table C-4. Estimated number and percent distribution of annual live births, by race/ethnicity of mother: U.S. metropolitan areas[1]

Race/ethnicity	Number	Percent
White, non-Hispanic	2,204,863	62.1
Black, non-Hispanic	597,574	16.8
Hispanic	611,784	17.2
Other[2]	136,810	3.9
Total	3,551,031	100.0

[1] Refers to place of delivery. See Chapter 2 for explanation of estimates.
[2] Includes Asian, Pacific Islander, Eskimo, Aleut, and American Indian.

Table C-5. Estimated percentage and number (in thousands) of women who used selected substances during pregnancy: U.S. metropolitan areas

Substance	Percentage		Number *(thousands)*	
	Estimate	95% C.I.	Estimate	95% C.I.
Illicit drug use and nonmedical use of psychotherapeutics				
Any illicit drug use [1]	5.8	4.4 - 7.5	202.5	154.7 - 264.0
Marijuana	2.9	2.0 - 4.2	101.8	69.7 - 148.1
Cocaine	1.3	0.9 - 1.9	45.1	30.9 - 65.8
Crack	1.0	0.6 - 1.5	34.8	22.6 - 53.5
Other cocaine	0.4	0.2 - 0.7	12.7	6.2 - 25.9
Methamphetamine	0.1	0.0 - 0.5	4.5	1.2 - 17.3
Heroin	0.1	0.0 - 0.5	3.6	0.8 - 17.2
Methadone	0.1	0.0 - 0.4	3.4	0.8 - 13.6
Inhalants	0.3	0.1 - 0.8	12.1	5.1 - 28.4
Hallucinogens	0.2	0.1 - 0.7	8.7	3.0 - 25.0
Nonmedical use of any psychotherapeutics [2]	1.7	1.1 - 2.6	59.6	39.6 - 89.6
Amphetamines	0.0	0.0 - 0.4	1.2	0.1 - 12.4
Sedatives	0.3	0.1 - 0.9	10.3	3.5 - 30.6
Tranquilizers	0.1	0.0 - 0.3	1.9	0.3 - 12.1
Analgesics	1.3	0.8 - 2.1	47.2	29.7 - 74.7
Alcohol	20.0	17.2 - 23.2	701.6	602.1 - 812.8
Cigarettes	20.6	18.6 - 22.8	721.9	651.6 - 797.6
Medical use of any psychotherapeutics [3]	9.8	7.1 - 13.4	343.7	248.3 - 470.4
Amphetamines	0.3	0.1 - 0.7	10.0	4.1 - 24.3
Sedatives	3.3	1.9 - 5.6	115.6	67.4 - 196.4
Tranquilizers	0.9	0.5 - 1.9	33.0	15.9 - 68.1
Analgesics	7.6	5.5 - 10.5	267.4	192.1 - 369.0

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Nonmedical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

[3] Medical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No observations, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table C-6. Estimated percentage and number (in thousands) of infants exposed prenatally to selected substances: U.S. metropolitan areas

Substance	Percentage		Number *(thousands)*	
	Estimate	95% C.I.	Estimate	95% C.I.
Illicit drug use and nonmedical use of psychotherapeutics				
Any illicit drug use [1]	5.7	4.4 - 7.5	203.6	155.3 - 265.7
Marijuana	2.9	2.0 - 4.2	101.8	69.8 - 147.9
Cocaine	1.3	0.9 - 1.9	45.1	30.8 - 65.9
Crack	1.0	0.6 - 1.5	34.8	22.5 - 53.7
Other cocaine	0.4	0.2 - 0.7	12.7	6.1 - 26.1
Methamphetamine	0.1	0.0 - 0.5	4.5	1.2 - 17.3
Heroin	0.1	0.0 - 0.5	3.6	0.8 - 17.2
Methadone	0.1	0.0 - 0.4	3.4	0.8 - 13.7
Inhalants	0.3	0.1 - 0.8	12.1	5.1 - 28.4
Hallucinogens	0.2	0.1 - 0.7	8.7	3.0 - 25.1
Nonmedical use of any psychotherapeutics [2]	1.7	1.1 - 2.6	60.7	40.0 - 91.7
Amphetamines	0.0	0.0 - 0.4	1.2	0.1 - 12.6
Sedatives	0.3	0.1 - 0.9	10.3	3.5 - 30.5
Tranquilizers	0.1	0.0 - 0.3	1.9	0.3 - 12.3
Analgesics	1.4	0.8 - 2.2	48.2	30.1 - 77.2
Alcohol	19.9	17.0 - 23.2	706.6	603.2 - 822.8
Cigarettes	20.5	18.5 - 22.7	728.3	656.4 - 805.8
Medical use of any psychotherapeutics [3]	9.7	7.0 - 13.4	345.6	248.4 - 475.2
Amphetamines	0.3	0.1 - 0.7	10.0	4.1 - 24.3
Sedatives	3.3	1.9 - 5.7	117.5	67.8 - 201.5
Tranquilizers	0.9	0.4 - 1.9	33.0	15.8 - 68.3
Analgesics	7.5	5.4 - 10.4	267.4	191.4 - 370.2

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Nonmedical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

[3] Medical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

KEY:

*** ***-*** Low precision, no estimate reported.

(no) (no)-(no) No observations, C.I. not computed.

0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table C-7a. Estimated percentage of women who used selected substances during pregnancy, by race/ethnicity: U.S. metropolitan areas

Substance	Race/ethnicity					
	White, non-Hispanic		Black, non-Hispanic		Hispanic	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage					
Illicit drug use or nonmedical use of psychotherapeutics:						
Any illicit drug use[1]	4.4	2.8 - 6.8	12.6	9.3 - 16.9	4.6	3.0 - 7.1
Marijuana	2.8	1.6 - 4.8	5.2	3.4 - 7.8	1.5	0.6 - 4.0
Cocaine:	0.4	0.1 - 1.3	5.1	3.3 - 7.7	0.7	0.2 - 2.7
Crack	0.3	0.1 - 1.3	4.6	2.9 - 7.1	0.1	0.0 - 2.1
Other cocaine	0.1	0.0 - 0.6	0.7	0.2 - 2.3	0.6	0.1 - 2.8
Methamphetamine	0.2	0.0 - 0.8	0.1	0.0 - 1.9	(no)	(no) - (no)
Heroin	0.0	0.0 - 0.7	0.2	0.0 - 2.0	(no)	(no) - (no)
Methadone	0.1	0.0 - 0.6	0.2	0.0 - 1.8	(no)	(no) - (no)
Inhalants	0.3	0.1 - 0.9	0.5	0.1 - 1.9	0.5	0.1 - 2.8
Hallucinogens	0.1	0.0 - 0.7	0.4	0.1 - 1.9	0.7	0.2 - 2.3
Nonmedical use of any psychotherapeutics[2]	1.2	0.7 - 2.2	3.4	1.9 - 6.0	1.8	0.8 - 3.9
Amphetamines	0.1	0.0 - 0.6	(no)	(no) - (no)	(no)	(no) - (no)
Sedatives	0.0	0.0 - 0.7	1.1	0.3 - 4.0	0.4	0.1 - 1.8
Tranquilizers	0.0	0.0 - 0.7	***	*** - ***	0.2	0.0 - 1.7
Analgesics	1.1	0.5 - 2.1	2.5	1.4 - 4.5	1.3	0.5 - 3.3
Alcohol	25.1	21.2 - 29.3	16.3	12.4 - 21.0	8.6	5.3 - 13.8
Cigarettes	25.0	22.6 - 27.7	22.0	17.0 - 28.1	5.5	3.7 - 8.2
Medical use of any psychotherapeutics[3]	11.0	7.7 - 15.6	9.4	6.3 - 13.7	6.1	3.9 - 9.5
Amphetamines	0.3	0.1 - 0.8	0.4	0.1 - 2.0	0.3	0.1 - 1.7
Sedatives	4.1	2.2 - 7.3	2.6	1.3 - 5.1	1.4	0.5 - 4.3
Tranquilizers	1.0	0.5 - 1.9	0.9	0.2 - 4.1	1.0	0.3 - 3.4
Analgesics	8.6	5.8 - 12.5	7.6	5.2 - 10.9	4.2	2.6 - 6.6

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Nonmedical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

[3] Medical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

KEY:

*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table C-7b. Estimated number (in thousands) of women who used selected substances during pregnancy, by race/ethnicity: U.S. metropolitan areas

Substance	Race/ethnicity					
	White, non-Hispanic		Black, non-Hispanic		Hispanic	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number (*thousands*)					
Illicit drug use or nonmedical use of psychotherapeutics:						
Any illicit drug use [1]	94.7	60.3 - 147.3	75.0	55.3 - 100.4	28.1	18.1 - 43.3
Marijuana	60.6	34.9 - 104.3	30.8	20.3 - 46.3	9.1	3.4 - 24.1
Cocaine:	9.2	3.0 - 27.9	30.0	19.7 - 45.4	4.4	1.2 - 16.4
Crack	7.0	1.7 - 28.4	27.2	17.4 - 42.1	0.6	0.0 - 12.6
Other cocaine	3.0	0.6 - 14.0	4.4	1.4 - 13.4	3.8	0.8 - 17.1
Methamphetamine	3.7	0.8 - 17.7	0.8	0.1 - 11.0	(no)	(no) - (no)
Heroin	0.8	0.0 - 15.8	1.3	0.1 - 11.6	(no)	(no) - (no)
Methadone	2.2	0.3 - 13.3	1.2	0.1 - 10.7	(no)	(no) - (no)
Inhalants	6.4	2.1 - 19.6	2.9	0.7 - 11.5	2.7	0.4 - 16.7
Hallucinogens	2.2	0.3 - 15.7	2.2	0.4 - 11.1	4.3	1.3 - 13.7
Nonmedical use of any psychotherapeutics [2]	26.2	14.4 - 47.7	20.4	11.5 - 35.8	11.0	5.1 - 23.5
Amphetamines	1.2	0.1 - 13.8	(no)	(no) - (no)	(no)	(no) - (no)
Sedatives	0.8	0.0 - 15.8	6.6	1.8 - 23.7	2.2	0.4 - 10.8
Tranquilizers	0.9	0.0 - 15.4	(no)	(no) - (no)	1.0	0.1 - 10.5
Analgesics	23.4	11.8 - 46.0	14.8	8.0 - 26.9	7.8	2.9 - 20.2
Alcohol	543.2	459.9 - 635.9	96.3	73.6 - 124.5	52.3	32.1 - 83.3
Cigarettes	542.9	489.4 - 600.1	130.6	100.7 - 166.5	33.3	22.2 - 49.4
Medical use of any psychotherapeutics [3]	238.9	166.0 - 338.4	55.5	37.4 - 81.1	37.0	23.5 - 57.3
Amphetamines	5.6	1.7 - 18.3	2.5	0.5 - 11.8	2.0	0.4 - 10.6
Sedatives	88.3	48.3 - 158.9	15.4	7.9 - 30.0	8.7	2.8 - 26.3
Tranquilizers	21.1	11.0 - 40.4	5.1	1.0 - 24.5	5.8	1.6 - 20.3
Analgesics	185.6	125.8 - 270.0	44.8	30.7 - 64.5	25.4	16.0 - 40.0

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Nonmedical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

[3] Medical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table C-8a. Estimated percentage of women who used selected substances during pregnancy, by age: U.S. metropolitan areas

Substance	Age in years					
	Under 25		25 - 29		35 and older	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage					
Illicit drug use or nonmedical use of psychotherapeutics:						
Any illicit drug use [1]	5.6	3.7 - 8.4	5.4	3.5 - 8.2	6.3	4.5 - 8.6
Marijuana	3.0	1.7 - 5.3	2.4	1.3 - 4.4	3.2	2.1 - 4.8
Cocaine:	0.5	0.1 - 1.6	1.9	1.0 - 3.4	1.8	1.0 - 3.1
Crack	0.2	0.0 - 0.9	1.5	0.8 - 2.9	1.5	0.8 - 2.8
Other cocaine	0.3	0.1 - 1.5	0.5	0.2 - 1.7	0.3	0.1 - 1.2
Methamphetamine	0.2	0.0 - 1.4	0.1	0.0 - 1.3	(no)	(no) - (no)
Heroin	(no)	(no) - (no)	0.1	0.0 - 1.5	0.2	0.1 - 1.1
Methadone	0.1	0.0 - 0.9	0.1	0.0 - 1.5	0.1	0.0 - 1.1
Inhalants	0.4	0.1 - 1.4	0.3	0.1 - 1.5	0.3	0.0 - 1.9
Hallucinogens	0.0	0.0 - 1.2	0.2	0.0 - 1.3	0.5	0.2 - 1.5
Nonmedical use of any psychotherapeutics [2]	2.0	1.2 - 3.2	1.2	0.5 - 2.8	1.8	0.8 - 3.8
Amphetamines	0.1	0.0 - 0.9	(no)	(no) - (no)	(no)	(no) - (no)
Sedatives	0.6	0.2 - 1.9	0.2	0.0 - 1.3	(no)	(no) - (no)
Tranquilizers	0.1	0.0 - 0.9	0.1	0.0 - 1.3	(no)	(no) - (no)
Analgesics	1.3	0.7 - 2.5	0.9	0.3 - 2.6	1.8	0.8 - 3.8
Alcohol	13.4	10.6 - 16.9	23.3	18.9 - 28.2	25.2	21.5 - 29.2
Cigarettes	21.3	18.7 - 24.2	20.3	17.1 - 23.8	20.1	16.3 - 24.5
Medical use of any psychotherapeutics [3]	9.9	6.5 - 14.7	9.8	7.0 - 13.7	9.8	6.2 - 15.1
Amphetamines	0.2	0.0 - 0.9	0.5	0.1 - 1.9	0.2	0.0 - 1.1
Sedatives	4.7	2.4 - 8.9	2.2	1.1 - 4.4	2.6	1.4 - 4.8
Tranquilizers	0.3	0.1 - 1.1	2.3	1.1 - 4.6	0.6	0.2 - 1.8
Analgesics	6.9	4.5 - 10.5	8.0	5.3 - 11.9	8.2	5.3 - 12.4

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[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Nonmedical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

[3] Medical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table C-8b. Estimated number (in thousands) of women who used selected substances during pregnancy, by age: U.S. metropolitan areas

Substance	Age in years					
	Under 25		25 - 29		35 and older	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number (*thousands*)					
Illicit drug use or nonmedical use of psychotherapeutics:						
Any illicit drug use [1]	77.3	51.1 - 115.9	51.3	33.5 - 77.7	73.9	53.4 - 101.7
Marijuana	41.2	23.0 - 73.0	22.8	12.6 - 41.1	37.8	24.9 - 57.1
Cocaine:	6.4	1.9 - 21.6	17.6	9.5 - 32.3	21.1	12.0 - 36.9
Crack	2.6	0.5 - 13.0	14.1	7.2 - 27.6	18.1	9.8 - 33.0
Other cocaine	3.8	0.7 - 20.7	5.0	1.6 - 15.6	3.8	1.0 - 14.4
Methamphetamine	3.3	0.6 - 18.7	1.1	0.1 - 12.4	(no)	(no) - (no)
Heroin	(no)	(no) - (no)	0.8	0.0 - 13.8	2.8	0.6 - 13.1
Methadone	1.4	0.2 - 11.8	0.8	0.0 - 13.8	1.2	0.1 - 12.7
Inhalants	5.2	1.4 - 19.2	3.2	0.7 - 13.9	3.6	0.6 - 22.4
Hallucinogens	0.6	0.0 - 16.0	2.2	0.4 - 12.2	5.9	1.9 - 17.9
Nonmedical use of any psychotherapeutics [2]	27.4	17.0 - 44.1	11.3	4.9 - 26.2	20.9	9.7 - 44.3
Amphetamines	1.2	0.1 - 12.0	(no)	(no) - (no)	(no)	(no) - (no)
Sedatives	8.4	2.6 - 26.3	1.9	0.3 - 12.1	(no)	(no) - (no)
Tranquilizers	0.9	0.1 - 13.1	1.0	0.1 - 12.6	(no)	(no) - (no)
Analgesics	18.0	9.5 - 33.9	8.4	2.8 - 24.3	20.9	9.7 - 44.3
Alcohol	184.9	146.0 - 232.3	219.6	178.8 - 266.4	297.1	253.9 - 344.9
Cigarettes	293.7	257.1 - 333.9	191.1	161.5 - 224.6	237.1	192.6 - 288.9
Medical use of any psychotherapeutics [3]	135.9	89.2 - 203.1	92.7	65.8 - 129.0	115.2	72.7 - 178.4
Amphetamines	2.4	0.5 - 12.1	5.0	1.4 - 18.3	2.7	0.5 - 13.0
Sedatives	64.6	33.4 - 122.4	20.7	10.1 - 41.9	30.3	15.9 - 57.0
Tranquilizers	4.5	1.4 - 15.1	21.5	10.5 - 43.4	6.9	2.2 - 21.4
Analgesics	95.5	62.5 - 144.1	75.5	49.8 - 112.7	96.4	62.5 - 146.1

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[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Nonmedical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

[3] Medical use of any prescription amphetamines, sedatives, tranquilizers, or analgesics during pregnancy.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

Table C-9a. Estimated percentage of women who used selected illicit drugs, cigarettes or alcohol before and during pregnancy, by specified time periods: U.S. metropolitan areas

Period and substance	Percentage	
	Estimate	95% C.I.
Ever used [1]		
Marijuana or hashish	33.2	30.6 - 36.0
Cocaine (All Forms)	12.6	10.7 - 14.7
Cigarettes	40.8	38.6 - 43.0
Use during past 12 months [2]		
Any illicit drug [3]	6.0	4.6 - 7.9
Marijuana	4.8	3.6 - 6.3
Cocaine	1.7	1.2 - 2.5
Crack	1.2	0.8 - 1.7
Cigarettes	24.9	22.6 - 27.3
Alcohol	36.5	32.4 - 40.8
Use 3 months before pregnancy		
Any illicit drug [3]	5.6	4.3 - 7.3
Marijuana	4.6	3.5 - 6.1
Cocaine	1.4	1.0 - 2.0
Crack	0.9	0.6 - 1.4
Cigarettes	24.4	22.3 - 26.7
Alcohol	34.7	30.7 - 39.0
Use during 1st trimester		
Any illicit drug [3]	3.6	2.4 - 5.2
Marijuana	2.9	1.9 - 4.2
Cocaine	1.0	0.7 - 1.6
Crack	0.8	0.5 - 1.3
Cigarettes	19.8	17.9 - 21.9
Alcohol	16.7	14.3 - 19.3
Use during 2nd trimester		
Any illicit drug [3]	2.4	1.6 - 3.6
Marijuana	1.7	1.1 - 2.5
Cocaine	0.8	0.5 - 1.3
Crack	0.7	0.4 - 1.1
Cigarettes	16.4	14.5 - 18.5
Alcohol	9.3	7.7 - 11.3

Table C-9a. Estimated percentage of women who used selected illicit drugs, cigarettes or alcohol before and during pregnancy, by specified time periods: U.S. metropolitan areas (continued)

Period and substance	Percentage	
	Estimate	95% C.I.
Use during 3rd trimester		
Any illicit drug [3]	2.2	1.5 - 3.3
Marijuana	1.5	1.0 - 2.4
Cocaine	0.9	0.5 - 1.4
Crack	0.8	0.5 - 1.3
Cigarettes	16.4	14.6 - 18.3
Alcohol	9.4	7.4 - 11.8
Use during last 3 days [4]		
Any illicit drug [3]	1.2	0.8 - 1.9
Marijuana	1.0	0.6 - 1.7
Cocaine	0.2	0.1 - 0.5
Crack	0.2	0.1 - 0.5
Cigarettes	14.9	13.4 - 16.5
Alcohol	2.8	2.2 - 3.6

[1] Lifetime use. Data obtained only for marijuana or hashish, cocaine (all forms), and cigarettes.

[2] Three months before pregnancy and during pregnancy. Less than 12 months if early delivery.

[3] Use of marijuana, cocaine (all forms), methamphetamine, methadone, or heroin.

[4] During the last 3 days before delivery.

KEY:

***	***-***	Low precision, no estimate reported.
(no)	(no)-(no)	No reported use, C.I. not computed.
0.0	0.0-0.0	Estimate <0.05, rounded to 0.0 with valid C.I.

Table C-9b. Estimated number (in thousands) of women who used selected illicit drugs, cigarettes or alcohol before and during pregnancy, by specified time periods: U.S. metropolitan areas

Period and Substance	Number (thousands)	
	Estimate	95% C.I.
Ever used [1]		
Marijuana or hashish	1,163.9	1,072.4 - 1,259.2
Cocaine (All Forms)	440.0	373.8 - 516.0
Cigarettes	1,427.4	1,352.1 - 1,503.9
Use during past 12 months [2]		
Any illicit drug [3]	210.9	160.2 - 276.4
Marijuana	167.5	126.3 - 221.2
Cocaine	59.8	41.6 - 85.8
Crack	40.4	27.0 - 60.2
Cigarettes	870.9	791.2 - 955.7
Alcohol	1,278.5	1,134.5 - 1,429.7
Use 3 months before pregnancy		
Any illicit drug [3]	196.7	151.2 - 254.8
Marijuana	161.0	120.9 - 213.5
Cocaine	48.9	34.0 - 70.3
Crack	31.5	20.0 - 49.6
Cigarettes	854.4	780.1 - 933.3
Alcohol	1,216.3	1,076.4 - 1,364.1
Use during 1st trimester		
Any illicit drug [3]	124.7	85.2 - 181.4
Marijuana	99.9	68.2 - 145.8
Cocaine	36.1	23.6 - 55.0
Crack	28.8	17.9 - 46.2
Cigarettes	693.9	626.7 - 766.4
Alcohol	583.7	501.1 - 676.8
Use during 2nd trimester		
Any illicit drug [3]	83.6	54.5 - 127.6
Marijuana	58.1	38.7 - 86.9
Cocaine	28.2	16.8 - 47.3
Crack	23.1	13.6 - 39.2
Cigarettes	574.5	508.4 - 647.2
Alcohol	327.0	270.2 - 394.3

Table C-9b. Estimated number (in thousands) of women who used selected illicit drugs, cigarettes or alcohol before and during pregnancy, by specified time periods: U.S. metropolitan areas (continued)

Period and Substance	Number (*thousands*)	
	Estimate	95% C.I.
Use during 3rd trimester		
Any illicit drug [3]	77.9	52.9 - 114.2
Marijuana	52.6	33.4 - 82.4
Cocaine	30.3	19.1 - 48.1
Crack	29.2	18.2 - 46.8
Cigarettes	573.0	511.8 - 639.9
Alcohol	329.0	260.2 - 413.6
Use during last 3 days [4]		
Any illicit drug [3]	42.4	26.9 - 66.5
Marijuana	35.9	22.2 - 58.0
Cocaine	6.1	2.2 - 17.2
Crack	6.1	2.2 - 17.2
Cigarettes	520.8	469.2 - 577.0
Alcohol	98.5	76.4 - 126.9

[1] Lifetime use. Data obtained only for marijuana or hashish, cocaine (all forms), and cigarettes.

[2] Three months before pregnancy and during pregnancy. Less than 12 months if early delivery.

[3] Use of marijuana, cocaine (all forms), methamphetamine, methadone, or heroin.

[4] During the last 3 days before delivery.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table C-10a. Estimated percentage of women who used selected illicit drugs during pregnancy, by selected demographic characteristics: U.S. metropolitan areas

Demographic characteristics	Any illicit drug use [1]		Marijuana		Cocaine (all forms)	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage					
Marital status						
Married	3.0	2.0 - 4.7	1.6	0.9 - 2.7	0.2	0.1 - 0.6
Not married	11.1	8.1 - 15.1	5.5	3.8 - 8.1	3.5	2.3 - 5.1
Living with person	10.7	6.3 - 17.7	6.1	2.9 - 12.4	2.2	0.7 - 6.4
Never married	11.6	7.7 - 17.0	5.3	3.5 - 8.1	3.8	2.3 - 6.3
Other [2]	10.6	5.4 - 19.9	4.6	1.5 - 13.3	5.4	2.3 - 12.3
Mother's education						
Less than 12 years	8.0	5.3 - 11.9	4.3	2.5 - 7.4	1.5	0.8 - 3.0
12 years	6.3	4.5 - 8.7	3.5	2.2 - 5.5	1.0	0.5 - 2.0
13-15 years	5.9	3.7 - 9.1	2.5	1.3 - 4.9	2.3	1.1 - 4.8
16 years or more	1.9	0.8 - 4.5	0.4	0.1 - 1.9	0.5	0.1 - 2.0
Annual household income						
$8,450 or less	11.4	7.5 - 17.1	6.4	4.2 - 9.8	2.6	1.3 - 5.0
$8,451-$14,850	6.7	4.3 - 10.3	3.8	2.0 - 7.1	2.0	0.7 - 5.7
$14,851-21,300	8.3	4.2 - 15.8	3.2	1.2 - 8.5	1.4	0.4 - 5.3
$21,301-$30,000	5.9	3.6 - 9.4	2.2	0.9 - 5.0	2.4	1.1 - 5.1
$30,001-$50,000	2.5	1.4 - 4.4	1.3	0.6 - 2.8	0.3	0.0 - 1.5
Over $50,000	3.0	1.8 - 5.2	1.8	0.8 - 4.0	0.1	0.0 - 1.8
Employment status						
Working	4.6	3.2 - 6.6	2.3	1.3 - 4.1	0.7	0.4 - 1.4
Not working	7.4	5.3 - 10.2	3.7	2.3 - 5.8	2.0	1.2 - 3.4
Unemployed	14.1	8.7 - 22.1	10.3	5.8 - 17.7	7.2	3.6 - 14.0
Homemaker	6.4	4.4 - 9.1	3.3	1.9 - 5.8	1.4	0.7 - 2.9
Attending school	7.0	3.8 - 12.7	1.6	0.6 - 4.4	1.4	0.4 - 4.5
Number of prenatal visits						
Less than 5	19.5	9.7 - 35.5	8.1	3.8 - 16.2	7.3	2.4 - 20.4
5-10	7.0	4.9 - 9.8	3.6	2.1 - 6.2	1.2	0.6 - 2.4
11-16	4.0	3.0 - 5.3	2.4	1.5 - 3.7	1.0	0.6 - 1.8
17 or more	6.4	3.5 - 11.3	2.0	0.8 - 5.1	0.8	0.2 - 3.7
Method of hospital payment						
Private source	3.5	2.1 - 5.8	1.9	1.0 - 3.5	0.4	0.2 - 1.1
Public aid	9.1	6.6 - 12.3	4.3	2.9 - 6.4	2.5	1.6 - 4.0
Hospital size (annual births)						
Less Than 1,000 births	5.6	2.4 - 12.8	2.9	1.1 - 7.5	0.3	0.1 - 1.9
1,000-1,999 births	4.8	2.4 - 9.4	3.1	1.4 - 6.6	1.0	0.3 - 3.1
2,000-2,999 births	4.7	3.2 - 6.9	1.7	0.7 - 4.1	0.7	0.2 - 2.9
3,000 or more births	7.3	4.6 - 11.4	3.7	2.2 - 6.3	2.4	1.3 - 4.4

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Divorced, separated, widowed.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table C-10b. Estimated number (in thousands) of women who used selected illicit drugs during pregnancy, by selected demographic characteristics: U.S. metropolitan areas

Demographic characteristics	Any illicit drug use [1]		Marijuana		Cocaine (all forms)	
	Estimate	95% C.I.	Estimate	95% C.I.	Estimate	95% C.I.
	Number (*thousands*)					
Marital status						
Married	70.6	45.4 - 109.0	36.4	20.9 - 63.2	4.2	1.2 - 14.8
Not married	132.0	96.3 - 178.7	65.4	44.5 - 95.3	40.9	27.5 - 60.3
Living with person	45.0	26.4 - 74.2	25.8	12.3 - 51.9	9.1	3.0 - 26.7
Never married	70.7	47.1 - 104.0	32.6	21.4 - 49.2	23.5	14.2 - 38.3
Other [2]	16.3	8.2 - 30.4	7.1	2.3 - 20.3	8.3	3.5 - 18.9
Mother's education						
Less than 12 years	69.3	45.9 - 103.3	37.4	21.5 - 64.2	13.3	6.7 - 26.2
12 years	78.1	56.0 - 108.2	43.5	27.1 - 69.2	12.0	5.7 - 25.2
13-15 years	42.7	27.2 - 66.3	18.4	9.4 - 35.8	16.6	7.8 - 35.0
16 years or more	12.3	5.1 - 29.6	2.5	0.5 - 12.6	3.1	0.7 - 13.3
Annual household income						
$8,450 or less	67.3	43.9 - 100.8	37.9	24.6 - 57.6	15.2	7.8 - 29.4
$8,451-$14,850	29.4	18.9 - 45.2	16.6	8.6 - 31.2	9.0	3.1 - 24.9
$14,851-21,300	33.4	16.8 - 63.8	12.9	4.7 - 34.3	5.7	1.5 - 21.4
$21,301-$30,000	29.0	17.9 - 46.3	10.8	4.6 - 24.6	12.0	5.6 - 25.3
$30,001-$50,000	21.2	12.0 - 37.0	10.8	4.9 - 23.7	2.2	0.4 - 12.7
Over $50,000	22.3	12.9 - 37.9	12.9	5.6 - 29.5	1.0	0.1 - 13.0
Employment status						
Working	90.9	62.8 - 130.8	46.2	25.9 - 81.7	14.5	7.4 - 28.4
Not working	111.6	80.0 - 154.5	55.6	35.2 - 87.2	30.6	18.1 - 51.4
Unemployed	23.1	14.2 - 36.2	16.9	9.5 - 29.0	11.9	5.9 - 22.9
Homemaker	62.8	43.6 - 89.7	32.9	18.8 - 57.1	13.8	6.5 - 28.8
Attending school	25.7	13.8 - 46.6	5.8	2.0 - 16.0	5.0	1.5 - 16.6
Number of prenatal visits						
Less than 5	29.5	14.6 - 53.7	12.2	5.8 - 24.5	11.0	3.6 - 30.8
5-10	68.3	48.2 - 96.0	35.3	20.1 - 61.0	11.4	5.4 - 23.8
11-16	79.7	59.8 - 105.8	46.6	29.9 - 72.5	19.6	10.9 - 35.1
17 or more	25.0	13.8 - 44.1	7.7	2.9 - 20.0	3.1	0.6 - 14.3
Method of hospital payment						
Private source	72.1	43.0 - 119.7	39.3	21.1 - 72.8	8.6	3.2 - 23.0
Public aid	130.5	95.4 - 176.8	62.5	42.0 - 92.3	36.5	23.1 - 57.3
Hospital size (annual births)						
Less Than 1,000 births	31.1	13.0 - 70.8	16.3	6.2 - 41.3	1.7	0.3 - 10.2
1,000-1,999 births	37.9	19.1 - 73.6	24.1	11.0 - 52.0	7.5	2.3 - 24.0
2,000-2,999 births	44.8	30.1 - 66.1	16.5	7.0 - 38.7	6.8	1.7 - 27.6
3,000 or more births	88.8	56.0 - 138.4	44.9	26.2 - 76.3	29.0	15.6 - 53.5

[1] Use of marijuana, cocaine (all forms), methamphetamine, heroin, methadone, inhalants, hallucinogens, or nonmedical use of psychotherapeutics during pregnancy.

[2] Divorced, separated, widowed.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No reported use, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table C-11a. Estimated percentage of women who used alcohol or cigarettes during pregnancy, by selected demographic characteristics: U.S. metropolitan areas

Demographic characteristic	Alcohol		Cigarettes	
	Estimate	95% C.I.	Estimate	95% C.I.
	Percentage			
Marital status				
Married	20.7	17.6 - 24.2	16.0	13.5 - 18.9
Not married	18.7	14.9 - 23.3	29.7	26.3 - 33.2
Living with person	21.4	16.4 - 27.5	32.7	26.8 - 39.2
Never married	16.6	12.9 - 21.1	25.2	21.2 - 29.8
Other [1]	19.8	11.4 - 32.2	39.1	28.2 - 51.1
Mother's education				
Less than 12 years	13.3	9.3 - 18.8	28.6	24.5 - 33.0
12 years	16.8	14.2 - 19.8	24.5	21.3 - 27.9
13-15 years	26.5	22.0 - 31.5	18.3	13.7 - 24.0
16 years or more	27.9	22.8 - 33.6	5.3	3.1 - 9.1
Annual household income				
$8,450 or less	15.6	11.1 - 21.4	30.2	25.0 - 36.1
$8,451-$14,850	15.1	10.5 - 21.2	27.8	22.9 - 33.3
$14,851-21,300	13.2	9.4 - 18.1	19.1	14.0 - 25.4
$21,301-$30,000	19.0	12.3 - 28.1	24.6	18.7 - 31.6
$30,001-$50,000	21.4	16.9 - 26.8	15.3	12.2 - 19.0
Over $50,000	29.5	23.4 - 36.4	12.9	9.6 - 17.0
Employment status				
Working	21.9	18.3 - 25.9	20.5	17.9 - 23.5
Not working	17.7	14.7 - 21.1	31.9	20.6 - 45.8
Unemployed	31.7	22.3 - 42.8	35.8	27.3 - 45.4
Homemaker	17.4	13.7 - 21.9	20.4	16.2 - 25.3
Attending school	12.0	8.0 - 17.5	14.9	10.8 - 20.2
Number of prenatal visits				
Less than 5	25.1	15.3 - 38.4	39.8	29.8 - 50.7
5-10	19.0	14.7 - 24.1	21.7	17.0 - 27.3
11-16	20.7	17.4 - 24.6	18.3	16.2 - 20.7
17 or more	17.2	11.0 - 25.8	22.0	17.0 - 28.0
Method of hospital payment				
Private source	23.0	19.6 - 26.7	14.8	12.2 - 17.9
Public aid	15.8	12.6 - 19.8	28.9	25.3 - 32.8
Hospital size (annual births)				
Less than 1,000 births	18.0	13.3 - 23.9	22.1	16.3 - 29.2
1,000-1,999 births	23.1	17.3 - 30.2	20.2	16.1 - 25.0
2,000-2,999 births	17.5	11.6 - 25.5	21.2	17.9 - 25.0
3,000 or more births	21.0	14.3 - 29.8	19.8	15.2 - 25.3

---

[1] Divorced, separated, widowed.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No observations, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Table C-11b. Estimated number (in thousands) of women who used alcohol and cigarettes during pregnancy, by selected demographic characteristics: U.S. metropolitan areas

	Alcohol		Cigarettes	
Demographic characteristic	Estimate	95% C.I.	Estimate	95% C.I.
	Number (*thousands*)			
Marital status				
Married	479.9	407.6 - 561.3	370.8	312.8 - 437.3
Not married	221.7	176.1 - 275.8	351.1	311.5 - 393.3
Living with person	90.0	68.9 - 115.4	137.3	112.6 - 164.5
Never married	101.4	78.6 - 129.1	154.1	129.3 - 181.8
Other [1]	30.3	17.4 - 49.2	59.7	43.1 - 78.2
Mother's education				
Less than 12 years	116.1	81.0 - 163.3	248.6	213.1 - 287.5
12 years	209.7	177.5 - 246.4	305.1	266.0 - 348.0
13-15 years	192.6	160.0 - 229.3	133.0	99.7 - 174.3
16 years or more	183.1	149.7 - 220.7	35.2	20.3 - 59.7
Annual household income				
$8,450 or less	91.8	65.5 - 126.1	178.3	147.3 - 212.6
$8,451-$14,850	66.5	46.3 - 93.3	122.3	100.6 - 146.7
$14,851-21,300	53.2	38.1 - 73.2	76.8	56.6 - 102.2
$21,301-$30,000	93.5	60.7 - 138.3	121.0	92.0 - 155.5
$30,001-$50,000	180.6	142.3 - 225.9	129.2	103.2 - 160.4
Over $50,000	216.0	171.4 - 266.6	94.2	70.7 - 124.2
Employment status				
Working	433.8	362.8 - 514.3	407.6	355.1 - 465.6
Not working	267.7	222.3 - 320.1	25.8	16.7 37.1
Unemployed	51.9	36.6 - 70.2	58.8	44.8 - 74.4
Homemaker	172.1	135.4 - 216.2	201.1	160.3 - 249.2
Attending school	43.7	29.2 - 64.1	54.4	39.5 - 73.7
Number of prenatal visits				
Less than 5	37.9	23.1 - 58.0	60.1	45.1 - 76.6
5-10	186.2	144.6 - 236.4	213.0	167.0 - 267.5
11-16	410.5	343.9 - 486.1	363.0	320.3 - 410.0
17 or more	66.9	42.8 - 100.7	85.8	66.2 - 109.3
Method of hospital payment				
Private source	473.2	404.4 - 549.8	305.1	250.5 - 369.2
Public aid	228.4	180.9 - 285.5	416.8	364.4 - 473.3
Hospital size (annual births)				
Less than 1,000 births	99.6	73.7 - 132.0	122.1	90.2 - 161.3
1,000-1,999 births	181.0	135.3 - 236.4	158.0	126.2 - 195.5
2,000-2,999 births	166.9	110.5 - 243.9	202.6	170.7 - 238.8
3,000 or more births	254.0	172.6 - 360.6	239.1	184.1 - 305.7

[1] Divorced, separated, widowed.

KEY:
*** ***-*** Low precision, no estimate reported.
(no) (no)-(no) No observations, C.I. not computed.
0.0 0.0-0.0 Estimate <0.05, rounded to 0.0 with valid C.I.

Appendix D

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Appendix E

NPHS Questionnaires and Related Survey Data Forms

NPHS QUESTIONNAIRES AND RELATED SURVEY DATA FORMS

This appendix contains copies of the questionnaires and related data forms utilized in the NPHS, as well as a copy of the letter sent to hospitals to request participation in the study. The documents in appendix E are listed below:

- Interviewer Administered Questionnaire (IAQ) - English version
- Self Administered Questionnaire (SAQ) - English version
- Nonresponse Data Form (NDF)
- Blinded Study Data Form (BSDF)
- Hair Inventory Record (HIR)
- Hospital Recruitment Letter

The medical record abstracts, ancillary study forms, and Spanish-language versions of materials are provided in appendix F.

ID#:

OMB: 0930-0149
Expires: 05/31/93

Interviewer ☐☐☐☐

National Pregnancy & Health Survey

Interviewer Administered Questionnaire

Notification to Respondent of Estimated Burden

Public respondent burden for this collection of information is estimated to average 60 minutes per response, including time for reviewing instructions and completing the collection of information. Send comments regarding this burden estimates, or any other aspect of this collection of information, including suggestions for reducing this burden, to: Public Health Service Reports Clearance Officer, Attn: PRA, Hubert H. Humphrey Building, Room 721B, 200 Independence Avenue, S.W., Washington, DC 20201; and to the Office of Management and Budget, Paperwork Reduction Project (0930-0149), Washington, DC 20503

NIH 2722-1 [10/92]

START TIME

|__|__| : |__|__| am
pm

PART I. OBSTETRICAL HISTORY

These first questions are about your recent pregnancy. (GIVE S CALENDAR FOR REFERENCE.)

1. What date did your doctor say the baby was due?

|__|__|-|__|__|-|__|__|
MO DA YR
DK 989898

BOX A

Q1 CONTAINS DATE, OR EDC RECORDED ON CRF,
OR # WKS GESTATION ON CRF 1 (Q5)
OTHERWISE 2 (Q1a)

1a. At the time of delivery, did your doctor say your baby was:

On time, ... 1 (Q2)
Late, or... 2 (Q1b)
Early?... 3 (Q1b)
DK 8 (Q2)

1b. How many weeks (late/early)?

|__|__|
WEEKS
DK 98

2. What date did you think the baby was due?

|__|__|-|__|__|-|__|__|
MO DA YR
DK 989898

3. What date do you think you became pregnant?

|__|__|-|__|__|-|__|__|
MO DA YR
DK 989898

4. How many weeks were you pregnant when you delivered?

|__|__|
WEEKS

5. When was your last menstrual period? (PROBE FOR 1ST DAY OF LAST MENSTRUAL PERIOD)

|__|__|-|__|__|-|__|__|
MO DA YR

6. On what date did you find out you were pregnant? (PROBE FOR DATE. IF NO DAY, PROBE: Was that the beginning, middle or end of month?)

|__|__|-|__|__|-|__|__|
MO DA YR

DAY	BEGINNING (1-10)	1
	MIDDLE (11-20)	2
	END OF MONTH (21-31)	3

7. Did you get any prenatal care during this pregnancy? Prenatal care includes pregnancy tests done in a clinic or doctor's office and prenatal checkups related to pregnancy.

YES	1	(Q8)
NO	2	(Q13)

8. When did you go for your first prenatal visit? (PROBE FOR DATE)

|__|__|-|__|__|-|__|__|
MO DA YR

DK 989898

9. About how many weeks pregnant were you when you went for your first prenatal visit?

|__|__|
WEEKS

DK 98

10. About how many prenatal visits did you have? (PROBE: How many visits did you have once a month, how many every two weeks, how many weekly visits, how many visits at the end?)

|__|__|
VISITS

DK 98

11. Looking at this card, please tell me at what kind of place did you obtain most of your prenatal care?

SHOW CARD 1

Private doctor's or nurse midwife's office..............	01
County or city health department	02
Community or neighborhood health center	03
HMO/Health Maintenance Organization...............	04
Clinic at work or school...	05
Clinic in a hospital..	06
Emergency room in a hospital	07
Other place (SPECIFY)________________________ ____	96
DK..	98

12. Which of the following prenatal care services did you receive during this pregnancy?

	YES	NO	DK
a. Pregnancy test?	1	2	8
b. Prenatal checkups?	1	2	8
c. Lab tests?	1	2	8
d. Sonogram or ultrasound?	1	2	8
e. X-ray?	1	2	8
f. Amniocentesis or chorionic villus sampling?	1	2	8
g. Emergency visits?	1	2	8
h. Any other prenatal services (SPECIFY)?	1	2	8

____

____

13. Was it hard for you to get prenatal care during your pregnancy for any of these reasons?

	YES	NO	DK
a. Problems with money or insurance?	1	2	8
b. Problems with appointments, work or transportation?	1	2	8
c. Problems with health care providers such as had to wait too long; afraid of medical tests; did not like doctors' or nurses' attitudes; would not accept Medicaid; office hours were not convenient?	1	2	8
d. Any other problems such as did not know you were pregnant; did not want anybody else to know; had too many other problems?	1	2	8

(SPECIFY) ______________________________

____

____

____

14. Did you receive WIC food for yourself during this pregnancy?

YES	1
NO	2

15. How much did you weigh just before you became pregnant?

|__|__|__|
WT. IN LBS.
DK 998

16. How much did you weigh just before your delivery?

|__|__|__|
WT. IN LBS.
DK 998

17. How tall are you?

|__|__| |__|__|
FT. IN.
DK 9898

18. Before you became pregnant, did you have any of the following medical conditions:

	YES	NO	DK
a. Diabetes, or sugar diabetes?	1	2	8
b. High blood pressure?	1	2	8
c. A seizure disorder such as epilepsy?	1	2	8
d. Any other chronic condition? (SPECIFY)	1	2	8

____

19. Did you develop any of the following medical conditions during your pregnancy:

	YES	NO	DK
a. Anemia?	1	2	8
b. High blood pressure including toxemia or pre-eclampsia?	1	2	8
c. Diabetes, or sugar diabetes?	1	2	8

20. During your recent pregnancy did you have any of the following infections:

	YES	NO	DK
a. Urinary tract infection?	1	2	8
b. Chlamydia?	1	2	8
c. Syphilis?	1	2	8
d. Gonorrhea?	1	2	8
e. Genital Herpes?	1	2	8
f. Any other sexually transmitted disease? (SPECIFY) ____________	1	2	8

____

(FOR EACH YES IN 20 ASK:)

21. Did you take antibiotics for (INFECTION):

	YES	NO	DK
a. Urinary tract infection?	1	2	8
b. Chlamydia?	1	2	8
c. Syphilis?	1	2	8
d. Gonorrhea?	1	2	8
e. Genital Herpes?	1	2	8
f. Any other sexually transmitted disease?	1	2	8

____

____

22. Did you take antibiotics for any (other) reason during your pregnancy?

YES (SPECIFY REASON) ____________ 1

____

NO 2

23. How many times have you been pregnant before? Include those that ended in live birth, miscarriage, stillbirth, induced abortion, and ectopic pregnancy. Please do not include this pregnancy.

|__|__| (Q24)
PREGS.
NONE .... 00 (GO TO PART II)

24. (How many of these pregnancies ended with/Did this pregnancy end with:)

a. The delivery of a live born baby?
(multiple births count as
1 pregnancy)
|__|__|
NUMBER

b. A miscarriage, that is a
spontaneous abortion before
20 weeks of pregnancy?
|__|__|
NUMBER

BOX B

LIVEBIRTHS PLUS MISCARRIAGES
EQUAL TOTAL PREGNANCIES
(Q24 a+b = Q23) 1 (Q25)

LIVEBIRTHS PLUS MISCARRIAGES
NOT EQUAL TO TOTAL PREGNANCIES
(Q24 a+b ≠ Q23) 2 (Q24c)

c. A stillbirth, at, or after
20 weeks of pregnancy?
|__|__|
NUMBER

d. An ectopic pregnancy?
|__|__|
NUMBER

e. An induced abortion?
|__|__|
NUMBER

25. What was the outcome of your last pregnancy?

LIVE BIRTH	1
MISCARRIAGE	2
STILLBIRTH	3
INDUCED ABORTION	4
ECTOPIC PREGNANCY	5

26. When was that?

|__|__|-|__|__|-|__|__|
MO DA YR

BOX C

S DID NOT HAVE A PREVIOUS LIVE BIRTH
(Q24 a = 00) .... 1 (PART II)

S DID HAVE A PREVIOUS LIVE BIRTH
(Q24 a ≠ 00) 2 (Q27)

Now I'd like some information about your previous live born babies.
(READ QUESTIONS 27, 28, AND 29 FOR EACH LIVE BIRTH BEFORE GOING ON TO THE NEXT LIVE BIRTH.)

<table>
<tr><th>27. How much did your (first/second/etc.) live born baby weigh at birth?</th><th>28. When was that baby born?</th><th>29. Was that baby delivered more than 2 weeks early?</th></tr>
<tr><td>1. |___|___| - |___|___|
LBS OZ</td><td>|___|___| - |___|___| - |___|___|
MO DA YR</td><td>YES 1
NO................ 2
DK................ 8</td></tr>
<tr><td>2. |___|___| - |___|___|
LBS OZ</td><td>|___|___| - |___|___| - |___|___|
MO DA YR</td><td>YES 1
NO................ 2
DK................ 8</td></tr>
<tr><td>3. |___|___| - |___|___|
LBS OZ</td><td>|___|___| - |___|___| - |___|___|
MO DA YR</td><td>YES 1
NO................ 2
DK................ 8</td></tr>
<tr><td>4. |___|___| - |___|___|
LBS OZ</td><td>|___|___| - |___|___| - |___|___|
MO DA YR</td><td>YES 1
NO................ 2
DK................ 8</td></tr>
<tr><td>5. |___|___| - |___|___|
LBS OZ</td><td>|___|___| - |___|___| - |___|___|
MO DA YR</td><td>YES 1
NO................ 2
DK................ 8</td></tr>
<tr><td>6. |___|___| - |___|___|
LBS OZ</td><td>|___|___| - |___|___| - |___|___|
MO DA YR</td><td>YES 1
NO................ 2
DK................ 8</td></tr>
</table>

USE CONTINUATION SHEET FOR DATA OVERFLOW

CHECK BOX IF CONTINUATION SHEET USED ☐

PART II - DEMOGRAPHY

These next questions are about your background and your current situation.

30. What is your date of birth?

|__|__|-|__|__|-|__|__|
MO DA YR

DK	989898

31. Are you currently:

Married,	1
Not married but living with a partner or boyfriend,	2
Widowed,	3
Divorced,	4
Separated, or	5
Never married?	6

32. Are you Hispanic or of Spanish origin?

YES	1	(Q33)
NO	2	(Q34)

33. Which one of these groups best describes you:

Puerto Rican,	1
Cuban,	2
Mexican, Chicana, Mexican American,	3
Central or South American, or	4
Other Spanish?	5

34. Which one of these groups best describes your racial background:

White,	1
Black,	2
Asian or Pacific Islander, or	3
Eskimo, Aleut or American Indian?	4

35. What is the last grade in school that you completed? Do not include vocational or trade schools.

NO SCHOOLING								00
ELEMENTARY	01	02	03	04	05	06	07	08
HIGH SCHOOL					09	10	11	12
COLLEGE					13	14	15	16
GRADUATE/ PROFESSIONAL SCHOOL					17 (OR HIGHER)			
DK								98

36. How many years of vocational or trade school have you completed?

|__|__|
YRS

NONE	00

BOX D

Q35 IS GRADE 12 OR GREATER	1	(Q38)
Q35 IS LESS THAN GRADE 12	2	(Q37)

37. Do you have a GED or High School Equivalency Diploma?

YES	1
NO	2

38. Think about the month before you got pregnant. During that month, what were you doing most of the time:

Working,	01	(Q39)
Had a job but not working for some reason,	02	(Q41)
Unemployed,	03	(Q40)
Full time homemaker,	04	(Q40)
Going to school, or	05	(Q40)
Something else? (SPECIFY) ______________________	96	(Q40)

39. Were you working part-time, that is, less than 35 hours a week or full time?

PART-TIME	1	(Q41)
FULL-TIME	2	(Q41)

40. Were you looking for work?

YES	1
NO	2

41. For the 12 months before your delivery, altogether, how many people lived in your household, including yourself? (IF S LIVED IN MORE THAN ONE HOUSEHOLD, PROBE: Tell me about the household you lived in the longest during the 12 months before delivery.)

|__|__| (Q42)
RESIDENTS IN HOUSEHOLD
S LIVED ALONE 01 (Q43)

42. How many of these people are related to you by birth or marriage?

|__|__|
FAMILY MEMBERS

43. Please tell me which of the following were sources of income or assistance for you [and the (person/people) living in your household] during the 12 months before your delivery? (IF S LIVED IN MORE THAN ONE HOUSEHOLD, PROBE: Tell me about the household you lived in the longest during the 12 months before delivery.)

SHOW CARD 2

		YES	NO	DK
a.	Wages and salaries, as well as fees, rents, interest, dividends or commissions?	1	2	8
b.	AFDC, that is Aid to Families with Dependent Children, public assistance or welfare?	1	2	8
c.	Food stamps?	1	2	8
d.	Housing assistance or public housing?	1	2	8
e.	Social Security or Supplemental Security Income?	1	2	8
f.	Unemployment insurance?	1	2	8
g.	Veteran's payments?	1	2	8
h.	Child support or alimony from absent parent?	1	2	8
i.	Any other sources of income?	1	2	8

BOX E

S LIVED ALONE (Q41 = 01) 1 (Q47)
S LIVED WITH OTHERS (Q41 ≠ 01) 2 (Q44)

44. IF Q43b = YES, ASK: During the 12 months before your delivery did you yourself receive AFDC, that is Aid to Families with Dependent Children, public assistance or welfare?

YES 1
NO 2

45. IF Q43e = YES, ASK: During the 12 months before your delivery did you yourself receive Social Security, Supplemental Security Income or SSI?

YES 1
NO 2

BOX F

S LIVED ONLY WITH NON-FAMILY MEMBERS (Q42 = 00) 1 (Q47)

S LIVED WITH FAMILY MEMBERS (Q42 ≠ 00) 2 (Q46)

46. SHOW CARDS 3 AND 4

This next question is about Total Combined Family Income. By family income we mean the gross income of all individuals related to you by birth or marriage who live in your house. That would be the income for the (Q42) (people/person) you told me about and yourself. Look at this card of sources of income. (SHOW CARD 3). Include income from jobs before any deductions, any tips, bonuses, overtime pay, commissions, net income after expenses from self-employment, from Social Security, Supplemental Security Income, public assistance, interest, dividends, alimony, child support or any other sources such as veterans benefits or unemployment compensation. Using this card (SHOW CARD 4), please tell me the letter that best represents the Total Combined Family Income for the 12 months before your delivery. (IF S LIVED IN MORE THAN ONE HOUSEHOLD, PROBE: Tell me about the household you lived in the longest during the 12 months before delivery.)

If you think of income as amount PER YEAR look at this column.

Annual Income

A.	No Income	01
B.	Under $5,000	02
C.	$5,000 to $6,300	03
D.	$6,301 to $8,450	04
E.	$8,451 to $10,600	05
F.	$10,601 to $12,700	06
G.	$12,701 to $14,850	07
H.	$14,851 to $17,000	08
I.	$17,001 to $19,000	09
J.	$19,001 to $21,300	10
K.	$21,301 to $25,000	11
L.	$25,001 to $30,000	12
M.	$30,001 to $40,000	13
N	$40,001 to $50,000	14
O.	$50,001 to $75,000	15
P.	$75,001 or More	16

If you think of income as amount PER WEEK look at this column.

Weekly Income

A.	No Income	01
B.	$1 to $96	02
C.	$97 to $120	03
D.	$121 to $160	04
E.	$161 to $200	05
F.	$201 to $245	06
G.	$246 to $285	07
H.	$286 to $325	08
I.	$326 to $370	09
J.	$371 to $410	10
K.	$411 to $480	11
L.	$481 to $576	12
M.	$577 to $769	13
N.	$770 to $961	14
O.	$962 to $1,441	15
P.	$1,442 or More	16

BOX G

ALL PEOPLE ARE RELATED TO S (Q42 is 1 less than Q41) 1 (Q48)

NON-FAMILY MEMBERS IN HOUSEHOLD.................................... 2 (Q47)

47. SHOW CARDS 3 AND 4

This question is about Total Combined Household Income. By household income we mean (the gross income of you and all the people who live in your house, both those related to you by birth or marriage and those not related to you by birth or marriage/your gross income) (SHOW CARD 3). Include income from jobs before any deductions, any tips, bonuses, overtime pay, commissions, net income after expenses from self-employment, from Social Security, Supplemental Security Income, public assistance, interest, dividends, alimony, child support or any other sources such as veterans benefits or unemployment compensation. Using Card 4, tell me the letter that best represents the Total Combined Household Income for the 12 months before delivery. (IF S LIVED IN MORE THAN ONE HOUSEHOLD, PROBE: Tell me about the household you lived in the longest during the 12 months before delivery.)

If you think of income as amount PER YEAR look at this column. | If you think of income as amount PER WEEK look at this column.

	Annual Income			Weekly Income	
A.	No Income	01	A.	No Income	01
B.	Under $5,000	02	B.	$1 to $96	02
C.	$5,000 to $6,300	03	C.	$97 to $120	03
D.	$6,301 to $8,450	04	D.	$121 to $160	04
E.	$8,451 to $10,600	05	E.	$161 to $200	05
F.	$10,601 to $12,700	06	F.	$201 to $245	06
G.	$12,701 to $14,850	07	G.	$246 to $285	07
H.	$14,851 to $17,000	08	H.	$286 to $325	08
I.	$17,001 to $19,000	09	I.	$326 to $370	09
J.	$19,001 to $21,300	10	J.	$371 to $410	10
K.	$21,301 to $25,000	11	K.	$411 to $480	11
L.	$25,001 to $30,000	12	L.	$481 to $576	12
M.	$30,001 to $40,000	13	M.	$577 to $769	13
N	$40,001 to $50,000	14	N.	$770 to $961	14
O.	$50,001 to $75,000	15	O.	$962 to $1,441	15
P.	$75,001 or More	16	P.	$1,442 or More	16

48. Do you have a Medicaid card?

YES	1	(Q49)
NO	2	(Q50)
PENDING	3	(Q50)

49. When did you receive it?

|__|__|-|__|__|-|__|__|
MO DA YR

50. SHOW CARD 5

Please look at this card and tell me by which of the following sources will your delivery and hospital stay be paid? (READ CATEGORIES TO S. PROBE: Which of these is the main source?)

		YES	NO	DK	MAIN SOURCE
a.	Your own income or your husband's/partner's own income?	1	2	8	1
b.	Parents, other relatives, boyfriend or his family?	1	2	8	2
c.	Insurance including an HMO health maintenance organization which you carry or is carried for you?	1	2	8	3
d.	Medicaid?	1	2	8	4
e.	Government assistance other than Medicaid, that is state or local assistance?	1	2	8	5
f.	Another source?	1	2	8	6

(SPECIFY) ______________________

BOX H

S RECEIVED PRENATAL CARE (Q7 = 1)	1	(Q51)
S DID NOT RECEIVE PRENATAL CARE (Q7 = 2)	2	(BOX I)

51. How was your prenatal care paid for?
(READ CATEGORIES TO S. PROBE: Which of these was the main source?)

SHOW CARD 5

		YES	NO	DK	MAIN SOURCE
a.	Your own income or your husband's/partner's own income?	1	2	8	1
b.	Parents, other relatives, boyfriend or his family?	1	2	8	2
c.	Insurance including an HMO health maintenance organization which you carry or is carried for you?	1	2	8	3
d.	Medicaid?	1	2	8	4
e.	Government assistance other than Medicaid, that is state or local assistance?	1	2	8	5
f.	Another source? (SPECIFY) ____________	1	2	8	6

BOX I

TAKE OUT SAQ AND ATTACH WESID LABEL. REFER TO CALENDAR AND GIVE SAQ TO S. READ:

We would like you to fill in the next section of the interview yourself. However, before you start to fill in your questionnaire, I would like you to look at this calendar. The questionnaire will be asking you to recall four separate periods of time in the past year. It will be easier for you to place yourself in these time periods if you can remember something that happened at the same time. Think back over the past year, that is, since (DATE LAST YEAR), and try to remember any special events which happened to you during that time. This can include your birthday, a friend's or relative's birthday, the dates you were on vacation, the date you began a new job, a move, an accident or illness, and other memorable events. Also record events connected to your pregnancy such as when you felt the baby move. Now circle the dates that you remember on the calendar and write what happened on that date on a line in the center of the page. Draw a line to connect the date and the event.

This calendar is just to help you remember the past year. I will not be collecting it at the end of the interview. No one will see it but you, so don't worry about how it looks or what is says. While you are filling in the calendar, I have to calculate some dates for the questionnaire. When I am finished, I will give you five additional dates to circle and label on your calendar.

BOX J

1. If the Pregnancy Dates have been previously calculated and recorded on the CRF, transfer the information to the box at the bottom of the Worksheet.

   OR

   If the Pregnancy Dates have NOT been calculated, copy the appropriate dates from Page 1 of the IAQ and follow the Pregnancy Wheel Steps on the Worksheet. Record the calculated dates in the box at the bottom of the Worksheet.

2. Read each date to the S.

3. Have S circle and label the dates on her calender.

4. Read the introduction at the top of the Interviewer's Version of the SAQ.

5. While S is completing the SAQ, Scan Edit the IAQ and attach labels. Retrieve missing data before leaving S.

END TIME

|__|__| : |__|__| am
pm

SAQ START

|__|__| : |__|__| am
pm

SAQ END

|__|__| : |__|__| am
pm

INTERVIEW CONDUCTED IN (CIRCLE ONE)

English 1
Spanish 2

INTERVIEWER REMARKS

R-1. Is the quality of the information in each section generally reliable or unsatisfactory?

	GENERALLY RELIABLE	UNSATIS-FACTORY	UNABLE TO DETERMINE
OBSTETRIC HISTORY	1	2	8
DEMOGRAPHICS	1	2	8
EXPOSURES	1	2	8

R-2. The overall quality of the interview is:

GENERALLY RELIABLE	1	(R-4)
UNSATISFACTORY	2	(R-3)

R-3. What are the reasons for the unsatisfactory quality? (CIRCLE ALL THAT APPLY)

	Y	N
DEPRESSED OR UPSET	1	2
DID NOT UNDERSTAND/SPEAK LANGUAGE WELL	1	2
BORED OR UNINTERESTED	1	2
R EMOTIONALLY UNSTABLE	1	2
OTHER (SPECIFY)	1	2

____

____

R-4. Did the subject have any objections to answering the drug exposure questions?

YES	1
NO	2

SPECIFY EACH QUESTION # ______________________________

R-5. Was the drug exposure section read to the subject because of literacy or language problems?

YES	1
NO	2

R-6. Have you any reservations about the reliability of the information collected?

YES	1
NO	2

WORKSHEET

(COPY FROM PAGE 1 IF NEEDED TO SET PREGNANCY WHEEL)

Q1 Doctor's due date |___|___| |___|___| |___|___|
1a. early late MO DA YR
1b. |___|___| weeks

Q5 Last Menstrual Period |___|___| - |___|___| - |___|___|
MO DA YR

Q2 Mother's estimate due date |___|___| - |___|___| - |___|___|
MO DA YR

Q3 Date of Conception |___|___| - |___|___| - |___|___|
MO DA YR

Q4 Weeks pregnant |___|___|

HOW TO SET PREGNANCY WHEEL - Start with STEP 1 and proceed until you have a date to set the wheel. When you do, skip the remaining steps and fill in box below.

STEP 1: CHECK CRF	▪ IF EDC IS RECORDED ON CRF, SET THE ARROW ON YOUR PREGNANCY WHEEL FOR "APPROXIMATE DATE OF DELIVERY" TO THAT DATE.
STEP 2: CHECK CRF	▪ IF BOTH DATE OF DELIVERY AND # WEEKS GESTATION ARE RECORDED, SET THE # WEEKS GESTATION ON INNER WHEEL TO THE DATE OF DELIVERY ON OUTER WHEEL.
STEP 3: CHECK Q1	▪ IF DATE IS RECORDED IN Q1, SET THE ARROW ON THE PREGNANCY WHEEL FOR "APPROXIMATE DATE OF DELIVERY" TO THAT DATE.
STEP 4: CHECK Q1a AND 1b AND DATE OF DELIVERY	▪ IF Q1a IS EARLY, SUBTRACT THE NUMBER OF WEEKS EARLY IN 1b FROM 40 WEEKS. SET THAT NUMBER OF WEEKS ON INNER WHEEL TO DATE OF DELIVERY ON OUTER WHEEL. ▪ IF Q1a IS LATE, ADD THE NUMBER OF WEEKS LATE IN 1b TO 40 WEEKS. SET THAT NUMBER OF WEEKS ON INNER WHEEL TO DATE OF DELIVERY ON OUTER WHEEL.
STEP 5: CHECK Q5	▪ IF A DATE IS RECORDED FOR LMP, SET THE "FIRST DAY OF LAST MENSTRUAL PERIOD" ARROW ON PREGNANCY WHEEL TO THAT DATE.
STEP 6: CHECK Q2	▪ IF A DATE IS RECORDED, SET THE "APPROXIMATE DATE OF DELIVERY" ARROW ON PREGNANCY WHEEL TO THAT DATE.
STEP 7: CHECK Q3	▪ IF A DATE IS RECORDED, SET "PROBABLE DAY OF CONCEPTION" LINE TO THAT DATE.
STEP 8: CHECK Q4 AND DELIVERY DATE	▪ SET NUMBER OF WEEKS IN Q4 ON INNER WHEEL TO DELIVERY DATE ON OUTER WHEEL.

DATES AND INFORMATION FROM PREGNANCY WHEEL AND CASE RECORD FOLDER

(Copy dates from CRF or calculate from worksheet.
Fill in Dates on S's Booklet and Calendar)

FROM PREGNANCY WHEEL MO DA YR

DATE 1 = LAST MENSTRUAL PERIOD MINUS 3 MONTHS |___|___| - |___|___| - |___|___|

DATE 2 = FIRST DAY OF LAST MENSTRUAL PERIOD |___|___| - |___|___| - |___|___|

DATE 3 = WEEK 13 |___|___| - |___|___| - |___|___|

DATE 4 = WEEK 26 |___|___| - |___|___| - |___|___|

DATE 5 = DELIVERY DATE |___|___| - |___|___| - |___|___|

FROM CRF

BIRTH WEIGHT |__|__| lbs |__|__| oz |__|__|__|__| gms

EDC |___|___| - |___|___| - |___|___|

# WEEKS GESTATION |___|___|

CONTINUATION SHEET

(READ QUESTIONS 27, 28, AND 29 FOR EACH LIVE BIRTH BEFORE GOING ON TO THE NEXT LIVE BIRTH.)

27. How much did your (first/second/etc.) live born baby weigh at birth?	28. When was that baby born?	29. Was that baby delivered more than 2 weeks early?
7. |___|___| - |___|___| LBS OZ	|___|___| - |___|___| - |___|___| MO DA YR	YES .... 1 NO .... 2 DK 8
8. |___|___| - |___|___| LBS OZ	|___|___| - |___|___| - |___|___| MO DA YR	YES .... 1 NO .... 2 DK 8
9. |___|___| - |___|___| LBS OZ	|___|___| - |___|___| - |___|___| MO DA YR	YES .... 1 NO .... 2 DK 8
10. |___|___| - |___|___| LBS OZ	|___|___| - |___|___| - |___|___| MO DA YR	YES .... 1 NO .... 2 DK 8
11. |___|___| - |___|___| LBS OZ	|___|___| - |___|___| - |___|___| MO DA YR	YES .... 1 NO .... 2 DK 8
12. |___|___| - |___|___| LBS OZ	|___|___| - |___|___| - |___|___| MO DA YR	YES .... 1 NO .... 2 DK 8
13. |___|___| - |___|___| LBS OZ	|___|___| - |___|___| - |___|___| MO DA YR	YES .... 1 NO .... 2 DK 8
14. |___|___| - |___|___| LBS OZ	|___|___| - |___|___| - |___|___| MO DA YR	YES .... 1 NO .... 2 DK 8

Page ☐ of ☐

Continuation Sheet
Urine Toxicology Screens

Westat ID:

Date Specimen Collected		Marijuana*		Cocaine**		Opiates***		Amphetamine****	
		b. Screening Test	c. Confirmatory Test	d. Screening Test	e. Confirmatory Test	f. Screening Test	g. Confirmatory Test	h. Screening Test	i. Confirmatory Test
a. ☐☐ ☐☐ ☐☐ M D Y	Neg	☐	☐	☐	☐	☐	☐	☐	☐
	Pos	☐	☐	☐	☐	☐	☐	☐	☐
______	Not done/ No mention	☐	☐	☐	☐	☐	☐	☐	☐

j. Other Drugs ☐ (Specify) →		k. ______		n. ______		q. ______		t. ______	
1 = Yes 2 = No 9 = No mention		l. Screening Test	m. Confirmatory Test	o. Screening Test	p. Confirmatory Test	r. Screening Test	s. Confirmatory Test	u. Screening Test	v. Confirmatory Test
	Neg	☐	☐	☐	☐	☐	☐	☐	☐
	Pos	☐	☐	☐	☐	☐	☐	☐	☐
	Not done/ No mention	☐	☐	☐	☐	☐	☐	☐	☐

☐

Date Specimen Collected		Marijuana*		Cocaine**		Opiates***		Amphetamine****	
		b. Screening Test	c. Confirmatory Test	d. Screening Test	e. Confirmatory Test	f. Screening Test	g. Confirmatory Test	h. Screening Test	i. Confirmatory Test
a. ☐☐ ☐☐ ☐☐ M D Y	Neg	☐	☐	☐	☐	☐	☐	☐	☐
	Pos	☐	☐	☐	☐	☐	☐	☐	☐
	Not done/ No mention	☐	☐	☐	☐	☐	☐	☐	☐

j. Other Drugs ☐ (Specify) →		k. ______		n. ______		q. ______		t. ______	
1 = Yes 2 = No 9 = No mention		l. Screening Test	m. Confirmatory Test	o. Screening Test	p. Confirmatory Test	r. Screening Test	s. Confirmatory Test	u. Screening Test	v. Confirmatory Test
	Neg	☐	☐	☐	☐	☐	☐	☐	☐
	Pos	☐	☐	☐	☐	☐	☐	☐	☐
	Not done/ No mention	☐	☐	☐	☐	☐	☐	☐	☐

☐

Date Specimen Collected		Marijuana*		Cocaine**		Opiates***		Amphetamine****	
		b. Screening Test	c. Confirmatory Test	d. Screening Test	e. Confirmatory Test	f. Screening Test	g. Confirmatory Test	h. Screening Test	i. Confirmatory Test
a. ☐☐ ☐☐ ☐☐ M D Y	Neg	☐	☐	☐	☐	☐	☐	☐	☐
	Pos	☐	☐	☐	☐	☐	☐	☐	☐
	Not done/ No mention	☐	☐	☐	☐	☐	☐	☐	☐

j. Other Drugs ☐ (Specify) →		k. ______		n. ______		q. ______		t. ______	
1 = Yes 2 = No 9 = No mention		l. Screening Test	m. Confirmatory Test	o. Screening Test	p. Confirmatory Test	r. Screening Test	s. Confirmatory Test	u. Screening Test	v. Confirmatory Test
	Neg	☐	☐	☐	☐	☐	☐	☐	☐
	Pos	☐	☐	☐	☐	☐	☐	☐	☐
	Not done/ No mention	☐	☐	☐	☐	☐	☐	☐	☐

☐

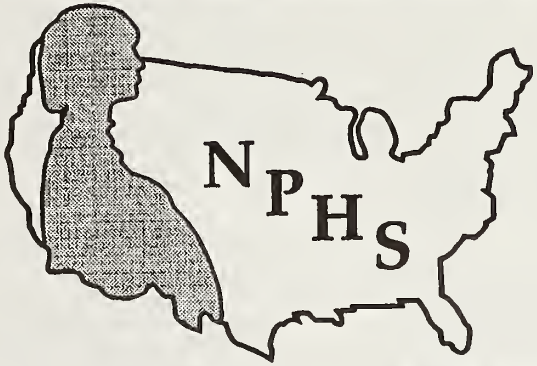
☐☐

* Tetrahydrocannabinol (THC) - (Marijuana metabolite)
** Benzoylecgonine (Cocaine metabolite)
*** Opiates (morphine, codeine, heroin, Dilaudid)
**** Amphetamines/Methamphetamine

ID#:

OMB: 0930-0149
Expires: 05/31/93

Interviewer ☐☐☐



National Pregnancy & Health Survey

Self Administered Questionnaire

Notification to Respondent of Estimated Burden

Public respondent burden for this collection of information is estimated to average 60 minutes per response, including time for reviewing instructions and completing the collection of information. Send comments regarding this burden estimates, or any other aspect of this collection of information, including suggestions for reducing this burden, to: Public Health Service Reports Clearance Officer, Attn: PRA, Hubert H. Humphrey Building, Room 721B, 200 Independence Avenue, S.W., Washington, DC 20201; and to the Office of Management and Budget, Paperwork Reduction Project (0930-0149), Washington, DC 20503

NIH 2722-2 [10/92]

These first questions will be asking about the time from ____________ to ____________. Look at your calendar; use it to help you remember.
DATE 1 DATE 2

EXAMPLE 1 shows how a non-smoker would answer the questions.

a. did you smoke cigarettes?

YES.......................... 1
NO.......................... [✓ 2]

b. During those 3 months, about how many days per week did you usually smoke?

Every day.......................... 1
3 to 6 days/week.......................... 2
1 or 2 days/week.......................... 3
Less than one day a week.......................... 4
Did not use.......................... [✓ 5]

c. During that time, on days when you smoked, about how many cigarettes did you usually smoke?

|_|_|
# CIGARETTES
(1 pack = 20 cigarettes)

☑ *Did not use*

d. During that time, what is the greatest number of cigarettes you smoked in one day?

|_|_|
# CIGARETTES
(1 pack = 20 cigarettes)

☑ *Did not use*

EXAMPLE 2 shows how a smoker would answer the questions.

a. did you smoke cigarettes?

YES.......................... [✓ 1]
NO.......................... 2

b. During those 3 months, about how many days per week did you usually smoke?

Every day.......................... [✓ 1]
3 to 6 days/week.......................... 2
1 or 2 days/week.......................... 3
Less than one day a week.......................... 4
Did not use.......................... 5

c. During that time, on days when you smoked, about how many cigarettes did you usually smoke?

|0|9|
# CIGARETTES
(1 pack = 20 cigarettes)

☐ *Did not use*

d. During that time, what is the greatest number of cigarettes you smoked in one day?

|3|0|
# CIGARETTES
(1 pack = 20 cigarettes)

☐ *Did not use*

Now let's start with the first question.
From ________________ To ________________
DATE 1 DATE 2

1a. did you smoke cigarettes?

YES.......................... 1
NO.......................... 2

1b. During those 3 months, about how many days a week did you usually smoke?

Every day.......................... 1
3 to 6 days a week.......................... 2
1 or 2 days a week.......................... 3
Less than one day a week.......................... 4
Did not use.......................... 5

1c. During that time, on days when you smoked, about how many cigarettes did you usually smoke in a day?

|_|_|
CIGARETTES
(1 pack = 20 cigarettes)

☐ Did not use

1d. During that time, what is the greatest number of cigarettes you smoked in one day?

|_|_|
CIGARETTES
(1 pack = 20 cigarettes)

☐ Did not use

Remember the questions go across the page.

From ________________ To ________________ . . .
DATE 1 DATE 2

2a. did you drink any alcoholic beverages such as beer, wine, or hard liquor? YES.......1 NO.......2	2b. During those 3 months, about how many days a week did you usually drink alcoholic beverages? Every day.......1 3 to 6 days a week.......2 1 or 2 days a week.......3 Less than one day a week.......4 Did not use.......5	2c. During that time, on days when you drank, about how many drinks did you usually have in a day? |__|__| # DRINKS ☐ Did not use	2d. During that time, what is the most you had to drink in one day? |__|__| # DRINKS ☐ Did not use
3a. did you use marijuana (pot, grass, reefer)? YES.......1 NO.......2	3b. During those 3 months, about how many days per week did you usually use marijuana? Every day.......1 3 to 6 days a week.......2 1 or 2 days a week.......3 Less than one day a week.......4 Did not use.......5	3c. During that time, on days when you used marijuana, about how many times per day did you usually use it? |__|__| # TIMES PER DAY ☐ Did not use	3d. During that time, what was the most times you used marijuana in one day? |__|__| # TIMES PER DAY ☐ Did not use
4a. did you use crack (rock cocaine)? YES.......1 NO.......2	4b. During those 3 months, about how many days per week did you usually use crack? Every day.......1 3 to 6 days a week.......2 1 or 2 days a week.......3 Less than one day a week.......4 Did not use.......5	4c. During that time on days when you used crack, about how many times did you usually use it in a day? |__|__| # TIMES PER DAY ☐ Did not use	4d. During that time, what was the most times you used crack in one day? |__|__| # TIMES PER DAY ☐ Did not use
5a. did you use cocaine other than crack? YES.......1 NO.......2	5b. During those 3 months, about how many days per week did you usually use cocaine other than crack? Every day.......1 3 to 6 days a week.......2 1 or 2 days a week.......3 Less than one day a week.......4 Did not use.......5	5c. During that time, on days when you used cocaine, other than crack, about how many times did you usually use it in a day? |__|__| # TIMES PER DAY ☐ Did not use	5d. During that time, what was the most times you used cocaine other than crack in one day? |__|__| # TIMES PER DAY ☐ Did not use

From ______________ To ______________
DATE 1 DATE 2

6a. did you use heroin? YES.............................1 NO..............................2	6b. During those 3 months, about how many days per week did you usually use heroin? Every day...1 3 to 6 days a week..............................2 1 or 2 days a week..............................3 Less than one day a week....................4 Did not use..5	6c. During that time, on days when you used heroin, about how many times would you usually use it in a day? |__|__| # TIMES PER DAY ☐ Did not use	6d. During that time, what was the most times you used heroin in one day? |__|__| # TIMES PER DAY ☐ Did not use
7a. did you use methadone? YES.............................1 NO..............................2	7b. During those 3 months, about how many days a week did you usually use methadone? Every day...1 3 to 6 days a week..............................2 1 or 2 days a week..............................3 Less than one day a week....................4 Did not use..5	7c. During that time, on days when you used methadone, about how many times would you usually use it in a day? |__|__| # TIMES PER DAY ☐ Did not use	7d. During that time, what was the most times you used methadone in one day? |__|__| # TIMES PER DAY ☐ Did not use
8a. did you use methamphetamine (ice, crank, crystal, meth)? YES.............................1 NO..............................2	8b. During those 3 months, about how many days per week did you usually use methamphetamine (ice, crank, crystal, meth)? Every day...1 3 to 6 days a week..............................2 1 or 2 days a week..............................3 Less than one day a week....................4 Did not use..5	8c. During that time, on days when you used methamphetamine, about how many times would you usually use it in a day? |__|__| # TIMES PER DAY ☐ Did not use	8d. During that time, what was the most times you used methamphetamine in one day? |__|__| # TIMES PER DAY ☐ Did not use

PLEASE TELL INTERVIEWER YOU HAVE FINISHED QUESTION 8

Look at your calendar. We are asking about the time from ______________ to ______________. Remember to go across the page, answer every question.
DATE 2 DATE 3

During this time:

9a. did you smoke cigarettes? YES.............................1 NO..............................2	9b. During those 3 months, about how many days a week did you usually smoke? Every day...1 3 to 6 days a week...............................2 1 or 2 days a week...............................3 Less than one day a week....................4 Did not use...5	9c. During that time, on days when you smoked, about how many cigarettes did you usually smoke per day? |__|__| # CIGARETTES (1 pack = 20 cigarettes) ☐ Did not use	9d. During that time, what is the greatest number of cigarettes you smoked in one day? |__|__| # CIGARETTES (1 pack = 20 cigarettes) ☐ Did not use
10a. did you drink any alcoholic beverages such as beer, wine, or hard liquor? YES.............................1 NO..............................2	10b. During those 3 months, about how many days a week did you usually drink alcoholic beverages? Every day...1 3 to 6 days a week...............................2 1 or 2 days a week...............................3 Less than one day a week....................4 Did not use...5	10c. During that time, on days when you drank, about how many drinks did you usually have in a day? |__|__| # DRINKS ☐ Did not use	10d. During that time, what is the most you had to drink in one day? |__|__| # DRINKS ☐ Did not use
11a. did you use marijuana (pot, grass, reefer)? YES.............................1 NO..............................2	11b. During those 3 months, about how many days per week did you usually use marijuana? Every day...1 3 to 6 days a week...............................2 1 or 2 days a week...............................3 Less than one day a week....................4 Did not use...5	11c. During that time, on days when you used marijuana, about how many times per day did you usually use it? |__|__| # TIMES PER DAY ☐ Did not use	11d. During that time, what was the most times you used marijuana in one day? |__|__| # TIMES PER DAY ☐ Did not use
12a. did you use crack (rock cocaine)? YES.............................1 NO..............................2	12b. During those 3 months, about how many days per week did you usually use crack? Every day...1 3 to 6 days a week...............................2 1 or 2 days a week...............................3 Less than one day a week....................4 Did not use...5	12c. During that time, on days when you used crack, about how many times did you usually use it in a day? |__|__| # TIMES PER DAY ☐ Did not use	12d. During that time, what was the most times you used crack in one day? |__|__| # TIMES PER DAY ☐ Did not use

13a. did you use cocaine other than crack? YES.......... 1 NO.......... 2	13b. During those 3 months, about how many days per week did you usually use cocaine other than crack? Every day.......... 1 3 to 6 days a week.......... 2 1 or 2 days a week.......... 3 Less than one day a week.......... 4 Did not use.......... 5	13c. During that time, on days when you used cocaine, other than crack, about how many times did you usually use it in a day? |__|__| # TIMES PER DAY ☐ Did not use	13d. During that time, what was the most times you used cocaine other than crack in one day? |__|__| # TIMES PER DAY ☐ Did not use
14a. did you use heroin? YES.......... 1 NO.......... 2	14b. During those 3 months, about how many days per week did you usually use heroin? Every day.......... 1 3 to 6 days a week.......... 2 1 or 2 days a week.......... 3 Less than one day a week.......... 4 Did not use.......... 5	14c. During that time, on days when you used heroin, about how many times would you usually use it in a day? |__|__| # TIMES PER DAY ☐ Did not use	14d. During that time, what was the most times you used heroin in one day? |__|__| # TIMES PER DAY ☐ Did not use
15a. did you use methadone? YES.......... 1 NO.......... 2	15b. During those 3 months, about how many days a week did you usually use methadone? Every day.......... 1 3 to 6 days a week.......... 2 1 or 2 days a week.......... 3 Less than one day a week.......... 4 Did not use.......... 5	15c. During that time, on days when you used methadone, about how many times would you usually use it in a day? |__|__| # TIMES PER DAY ☐ Did not use	15d. During that time, what was the most times you used methadone in one day? |__|__| # TIMES PER DAY ☐ Did not use
16a. did you use methamphetamine (ice, crank, crystal, meth)? YES.......... 1 NO.......... 2	16b. During those 3 months, about how many days per week did you usually use methamphetamine (ice, crank, crystal, meth)? Every day.......... 1 3 to 6 days a week.......... 2 1 or 2 days a week.......... 3 Less than one day a week.......... 4 Did not use.......... 5	16c. During that time, on days when you used methamphetamine, about how many times would you usually use it in a day? |__|__| # TIMES PER DAY ☐ Did not use	16d. During that time, what was the most times you used methamphetamine in one day? |__|__| # TIMES PER DAY ☐ Did not use

PLEASE TELL INTERVIEWER YOU HAVE FINISHED QUESTION 16

Look at your calendar again. Now we are asking about the time from ________________ to ________________. Use your calendar to help you remember.
DATE 3 DATE 4

During this time:
17a. did you smoke cigarettes?

YES............................1
NO.............................2

17b. During those 3 months, about how many days a week did you usually smoke?

Every day...1
3 to 6 days a week...............................2
1 or 2 days a week...............................3
Less than one day a week....................4
Did not use..5

17c. During that time, on days when you smoked, about how many cigarettes did you usually smoke per day?

|__|__|
CIGARETTES
(1 pack = 20 cigarettes)

☐ Did not use

17d. During that time, what is the greatest number of cigarettes you smoked in one day?

|__|__|
CIGARETTES
(1 pack = 20 cigarettes)

☐ Did not use

18a. did you drink any alcoholic beverages such as beer, wine, or hard liquor?

YES............................1
NO.............................2

18b. During those 3 months, about how many days a week did you usually drink alcoholic beverages?

Every day...1
3 to 6 days a week...............................2
1 or 2 days a week...............................3
Less than one day a week....................4
Did not use..5

18c. During that time, on days when you drank, about how many drinks did you usually have in a day?

|__|__|
DRINKS

☐ Did not use

18d. During that time, what is the most you had to drink in one day?

|__|__|
DRINKS

☐ Did not use

19a. did you use marijuana (pot, grass, reefer)?

YES............................1
NO.............................2

19b. During those 3 months, about how many days per week did you usually use marijuana?

Every day...1
3 to 6 days a week...............................2
1 or 2 days a week...............................3
Less than one day a week....................4
Did not use..5

19c. During that time, on days when you used marijuana, about how many times per day did you usually use it?

|__|__|
TIMES PER DAY

☐ Did not use

19d. During that time, what was the most times you used marijuana in one day?

|__|__|
TIMES PER DAY

☐ Did not use

20a. did you use crack (rock cocaine)?

YES............................1
NO.............................2

20b. During those 3 months, about how many days per week did you usually use crack?

Every day...1
3 to 6 days a week...............................2
1 or 2 days a week...............................3
Less than one day a week....................4
Did not use..5

20c. During that time, on days when you used crack, about how many times did you usually use it in a day?

|__|__|
TIMES PER DAY

☐ Did not use

20d. During that time, what was the most times per day you used crack in one day?

|__|__|
TIMES PER DAY

☐ Did not use

21a. did you use cocaine other than crack? YES.............................1 NO..............................2	21b. During those 3 months, about how many days per week did you usually use cocaine other than crack? Every day...1 3 to 6 days a week................................2 1 or 2 days a week................................3 Less than one day a week.....................4 Did not use...5	21c. During that time, on days when you used cocaine, other than crack, about how many times did you usually use it in a day? |__|__| # TIMES PER DAY ☐ Did not use	21d. During that time, what was the most times you used cocaine other than crack in one day? |__|__| # TIMES PER DAY ☐ Did not use
22a. did you use heroin? YES.............................1 NO..............................2	22b. During those 3 months, about how many days per week did you usually use heroin? Every day...1 3 to 6 days a week................................2 1 or 2 days a week................................3 Less than one day a week.....................4 Did not use...5	22c. During that time, on days when you used heroin, about how many times would you usually use it in a day? |__|__| # TIMES PER DAY ☐ Did not use	22d. During that time, what was the most times you used heroin in one day? |__|__| # TIMES PER DAY ☐ Did not use
23a. did you use methadone? YES.............................1 NO..............................2	23b. During those 3 months, about how many days a week did you usually use methadone? Every day...1 3 to 6 days a week................................2 1 or 2 days a week................................3 Less than one day a week.....................4 Did not use...5	23c. During that time, on days when you used methadone, about how many times would you usually use it in a day? |__|__| # TIMES PER DAY ☐ Did not use	23d. During that time, what was the most times per day you used methadone in one day? |__|__| # TIMES PER DAY ☐ Did not use
24a. did you use methamphetamine (ice, crank, crystal, meth)? YES.............................1 NO..............................2	24b. During those 3 months, about how many days per week did you usually use methamphetamine (ice, crank, crystal, meth)? Every day...1 3 to 6 days a week................................2 1 or 2 days a week................................3 Less than one day a week.....................4 Did not use...5	24c. During that time, on days when you used methamphetamine, about how many times would you usually use it in one day? |__|__| # TIMES PER DAY ☐ Did not use	24d. During that time, what was the most times you used methamphetamine in one day? |__|__| # TIMES PER DAY ☐ Did not use

PLEASE TELL INTERVIEWER YOU HAVE FINISHED QUESTION 24

Check your calendar again. Now we are asking about the time from ____________ to ____________. Use your calendar to help you remember.
DATE 4 / DELIVERY DATE

During that time:

25a. did you smoke cigarettes? YES.......1 NO.......2	25b. During that time, about how many days per week did you usually smoke? Every day.......1 3 to 6 days a week.......2 1 or 2 days a week.......3 Less than one day a week.......4 Did not use.......5	25c. During that time, on days when you smoked, about how many cigarettes did you usually smoke per day? |__|__| # CIGARETTES (1 pack = 20 cigarettes) ☐ Did not use	25d. During that time, what was the most cigarettes you smoked in one day? |__|__| # CIGARETTES (1 pack = 20 cigarettes) ☐ Did not use
26a. did you drink any alcoholic beverages such as beer, wine, or hard liquor? YES.......1 NO.......2	26b. During that time, about how many days per week did you usually drink alcoholic beverages? Every day.......1 3 to 6 days a week.......2 1 or 2 days a week.......3 Less than one day a week.......4 Did not use.......5	26c. During that time on days when you drank, about how many drinks did you usually have in a day? |__|__| # DRINKS ☐ Did not use	26d. During that time, what was the most you had to drink in one day? |__|__| # DRINKS ☐ Did not use
27a. did you use marijuana (pot, grass, reefer) YES.......1 NO.......2	27b. During that time, about how many days per week did you usually use marijuana? Every day.......1 3 to 6 days a week.......2 1 or 2 days a week.......3 Less than one day a week.......4 Did not use.......5	27c. During that time, on days when you used marijuana, about how many times per day would you usually use it? |__|__| # TIMES PER DAY ☐ Did not use	27d. During that time, what was the most times you used marijuana in one day? |__|__| # TIMES PER DAY ☐ Did not use
28a. did you use crack (rock cocaine)? YES.......1 NO.......2	28b. During that time, about how many days per week did you usually use crack? Every day.......1 3 to 6 days a week.......2 1 or 2 days a week.......3 Less than one day a week.......4 Did not use.......5	28c. During that time, on days when you used crack, about how many times did you usually use it in a day? |__|__| # TIMES PER DAY ☐ Did not use	28d. During that time, what was the most times you used crack in one day? |__|__| # TIMES PER DAY ☐ Did not use

29a. did you use cocaine other than crack?

YES..............................1
NO..............................2

29b. During that time, about how many days per week did you usually use cocaine other than crack?

Every day..............................1
3 to 6 days a week..............................2
1 or 2 days a week..............................3
Less than one day a week..............................4
Did not use..............................5

29c. During that time, on days when you used cocaine other than crack, about how many times did you usually use it in a day?

|__|__|
# TIMES PER DAY

☐ Did not use

29d. During that time, what was the most times you used cocaine other than crack in one day?

|__|__|
# TIMES PER DAY

☐ Did not use

30a. did you use heroin?

YES..............................1
NO..............................2

30b. During that time, about how many days per week did you usually use heroin?

Every day..............................1
3 to 6 days a week..............................2
1 or 2 days a week..............................3
Less than one day a week..............................4
Did not use..............................5

30c. During that time, on days when you used heroin, about how many times would you usually use it in a day?

|__|__|
# TIMES PER DAY

☐ Did not use

30d. During that time, what was the most times you used heroin in one day?

|__|__|
# TIMES PER DAY

☐ Did not use

31a. did you use methadone?

YES..............................1
NO..............................2

31b. During that time, about how many days per week did you usually use methadone?

Every day..............................1
3 to 6 days a week..............................2
1 or 2 days a week..............................3
Less than one day a week..............................4
Did not use..............................5

31c. During that time, on days when you used methadone, about how many times would you usually use it in a day?

|__|__|
# TIMES PER DAY

☐ Did not use

31d. During that time, what was the most times you used methadone in one day?

|__|__|
# TIMES PER DAY

☐ Did not use

32a. did you use methamphetamine (ice, crank, crystal, meth)?

YES..............................1
NO..............................2

32b. During that time, about how many days per week did you usually use methamphetamine (ice, crank, crystal, meth)?

Every day..............................1
3 to 6 days a week..............................2
1 or 2 days a week..............................3
Less than one day a week..............................4
Did not use..............................5

32c. During that time, on days when you used methamphetamine, about how many times would you usually use it in a day?

|__|__|
# TIMES PER DAY

☐ Did not use

32d. During that time, what was the most times you used methamphetamine in one day?

|__|__|
# TIMES PER DAY

☐ Did not use

PLEASE TELL INTERVIEWER YOU HAVE FINISHED QUESTION 32

PRESCRIPTION DRUGS

Now we will be asking about prescription-type drugs. There will be separate questions for sedatives, tranquilizers, stimulants, and analgesics. We are interested in the time from ________ to ________.
DATE 2 DELIVERY DATE

Look at your calendar and fill in Date 2 and the delivery date in the line above question 33. Please look at the cards A, B, C, D. Also take a look at Card 6 in your showcards.

Look at EXAMPLE 1 of a woman who took sedatives both under doctor's orders and not under doctor's orders.

EXAMPLE 1:

33a. Did you take any sedatives (sleeping pills, downers or barbiturates) under doctor's orders?

USE CARD A

YES .... [✓ 1]
NO................ 2

33b. Did you take any sedatives (sleeping pills, downers or barbiturates) for nonmedical reasons **not under doctor's orders?**

USE CARD 6

YES .... [✓ 1]
NO................ 2

33c. During this time period about how many days per week did you usually take sedatives **not under doctor's orders?**

Every day................................. 1
3-6 days a week .... [✓ 2]
1-2 days a week 3
Less than one day a week 4
Did not use 5

33d. Again we are talking about taking drugs **not under doctor's orders.** During this time period, on days when you took sedatives, about how many did you usually take?

|0|2|
PILLS PER DAY

☐ Did not use

33e. During this time period, what was the greatest number of sedatives you took in one day **not under doctor's orders?**

|0|9|
PILLS

☐ Did not use

Now look at this EXAMPLE 2 of a woman who took sedatives only under doctor's orders.

EXAMPLE 2:

33a. Did you take any sedatives (sleeping pills, downers or barbiturates) under doctor's orders?

USE CARD A

YES .... [✓ 1]
NO................ 2

33b. Did you take any sedatives (sleeping pills, downers or barbiturates) for nonmedical reasons **not under doctor's orders?**

USE CARD 6

YES 1
NO............... [✓ 2]

33c. During this time period about how many days per week did you usually take sedatives **not under doctor's orders?**

Every day................................. 1
3-6 days a week 2
1-2 days a week 3
Less than one day a week 4
Did not use .... [✓ 5]

33d. Again we are talking about taking drugs **not under doctor's orders.** During this time period, on days when you took sedatives, about how many did you usually take?

|__|__|
PILLS PER DAY

☑ Did not use

33e. During this time period, what was the greatest number of sedatives you took in one day **not under doctor's orders?**

|__|__|
PILLS

☑ Did not use

Now you begin with question 33a. Let me know when you finish this section, question 36. Remember the time period is from ________________ to ________________.
DATE 2 DELIVERY DATE

33a. Did you take any sedatives (sleeping pills, downers or barbiturates) under doctor's orders?

USE CARD A

YES 1
NO................ 2

33b. Did you take any sedatives (sleeping pills, downers or barbiturates) for nonmedical reasons **not under doctor's orders?**

USE CARD 6

YES 1
NO................ 2

33c. During this time period about how many days per week did you usually take sedatives **not under doctor's orders?**

Every day 1
3-6 days a week........................ 2
1-2 days a week........................ 3
Less than one day a week......... 4
Did not use 5

33d. Again we are talking about taking drugs **not under doctor's orders.** During this time period, on days when you took sedatives, about how many did you usually take?

|__|__|
PILLS PER DAY

☐ Did not use

33e. During this time period, what was the greatest number of sedatives you took in one day **not under doctor's orders?**

|__|__|
PILLS

☐ Did not use

34a. Did you take any tranquilizers under doctor's orders?

USE CARD B

YES............... 1
NO................ 2

34b. Did you take any tranquilizers for nonmedical reasons **not under doctor's orders?**

USE CARD 6

YES............... 1
NO................ 2

34c. During this time period, about how many days per week did you usually take tranquilizers not **under doctor's orders?**

Every day.................................. 1
3-6 days a week 2
1-2 days a week 3
Less than one day a week........ 4
Did not use............................... 5

34d. Again we are talking about taking drugs **not under doctor's orders.** During this time period, on days when you took tranquilizers on your own, about how many did you usually take?

|__|__|
PILLS PER DAY

☐ Did not use

34e. During this time period, what was the greatest number of tranquilizers you took in one day **not under doctor's orders?**

|__|__|
PILLS

☐ Did not use

35a. Did you take any amphetamines, sometimes called uppers or speed and stimulants under doctor's orders?

USE CARD C

YES............... 1
NO................ 2

35b. Did you take any amphetamines **not under doctor's orders?**

USE CARD 6

YES............... 1
NO................ 2

35c. During this time period, about how many days per week did you usually take amphetamines not **under doctor's orders?**

Every day.................................. 1
3-6 days a week 2
1-2 days a week 3
Less than one day a week........ 4
Did not use............................... 5

35d. Again we are talking about taking drugs **not under doctor's orders.** During this time period, on days when you took amphetamines, about how many did you usually take?

|__|__|
PILLS PER DAY

☐ Did not use

35e. During this time period, what was the greatest number of amphetamines you took in one day **not under doctor's orders?**

|__|__|
PILLS

☐ Did not use

36a. Did you take any analgesics (painkillers) under doctor's orders?

USE CARD D

YES............... 1
NO................ 2

36b. Did you take any analgesics (painkillers) **not under doctor's orders?**

USE CARD 6

YES............... 1
NO................ 2

36c. During this time period, about how many days per week did you usually take analgesics **not under doctor's orders?**

Every day.................................. 1
3-6 days a week 2
1-2 days a week 3
Less than one day a week........ 4
Did not use............................... 5

36d. Again, we are talking about taking drugs **not under doctor's orders.** During this time period, on days when you took analgesics, about how many did you usually take?

|__|__|
PILLS PER DAY

☐ Did not use

36e. During this time period, what was the greatest number of analgesics you took in one day **not under doctor's orders?**

|__|__|
PILLS

☐ Did not use

PLEASE TELL INTERVIEWER YOU HAVE FINISHED QUESTION 36

Again, thinking about the time from ______________ to ______________, please answer questions 37-42. Circle 1 for yes or 2 for no. Please tell me when you have answered Q42.
DATE 2 DELIVERY DATE

37. At any time between __________ and delivery, have you used:
DATE 2

Hallucinogens such as LSD or PCP

YES 1
NO 2

Inhalants

YES 1
NO 2

38. In this time period, did you live in the same household with anyone who smoked cigarettes?

YES 1
NO 2

39. In this time period, have you gone to a clinic, self-help group, counselor, doctor or other professional to get help to stop smoking?

YES 1
NO 2

40. In this time period, have you gotten any treatment for drinking -- such as from a clinic, self-help group, counselor, doctor or other professional?

YES 1
NO 2

Now we are interested in treatment you may have gotten or attempted to get for use of other drugs, that is, besides cigarettes or alcohol.

41. In this time period, have you attempted to get treatment for other drug use, not counting cigarettes or alcohol, in any of the following places?

a.	An emergency room	YES 1	NO 2
b.	A hospital as an inpatient	YES 1	NO 2
c.	A private doctor's office	YES 1	NO 2
d.	A drug treatment or rehabilitation facility	YES 1	NO 2
e.	A mental health center or facility	YES 1	NO 2
f.	A self-help group	YES 1	NO 2
g.	Some other place (SPECIFY) ____________	YES 1	NO 2

42. During this time, have you received treatment for other drug use, not counting cigarettes or alcohol, in any of the following places?

a.	An emergency room	YES 1	NO 2
b.	A hospital as an inpatient	YES 1	NO 2
c.	A private doctor's office	YES 1	NO 2
d.	A drug treatment or rehabilitation facility	YES 1	NO 2
e.	A mental health center or facility	YES 1	NO 2
f.	A self-help group	YES 1	NO 2
g.	Some other place (SPECIFY) ____________	YES 1	NO 2

PLEASE TELL INTERVIEWER YOU HAVE FINISHED QUESTION 42

43. Now I would like you to think about the three days before you were admitted for delivery. Do not include date of admission. In those 3 days did you . . .

a. Smoke any cigarettes?
YES 1
NO 2

b. Drink any alcoholic beverages?
YES 1
NO 2

c. Use marijuana?
YES 1
NO 2

d. Use crack (rock cocaine)?
YES 1
NO 2

e. Use cocaine other than crack?
YES 1
NO 2

f. Use heroin?
YES 1
NO 2

g. Use methadone?
YES 1
NO 2

h. Use methamphetamine?
YES 1
NO 2

i. Take any amphetamines?
YES 1
NO 2

j. Take any tranquilizers?
YES 1
NO 2

k. Take any sedatives?
YES 1
NO 2

l. Take any analgesics?
YES 1
NO 2

44. When was the most recent time you smoked a cigarette?

Within the past year.. 1
1 or more years ago, but less than 3 years ago........... 2
3 or more years ago 3
Never smoked.. 4
Not sure.. 8

PLEASE TELL INTERVIEWER YOU HAVE FINISHED QUESTION 44

Fill in or circle one answer for these next questions.

45. About how old were you the first time you tried marijuana or hashish?

Age when you tried .... |__|__|

Never used marijuana or hashish 00

46. When was the most recent time you used marijuana or hashish?

Within the past year 1
1 or more years ago, but less than 3 years ago 2
3 or more years ago 3
Never used marijuana or hashish 4

47. About how old were you the first time you tried cocaine?

Age when you tried cocaine .... |__|__|

Never used cocaine in any form 00

48. When was the most recent time you used cocaine?

Within the past year 1
1 or more years ago, but less than 3 years ago 2
3 or more years ago 3
Never used cocaine 4

Thank you very much for your help in this important study.

THE INTERVIEW IS FINISHED. PLEASE PUT YOUR BOOKLET IN THE ENVELOPE AND SEAL IT.

Westat ID:

NPHS
NONRESPONSE DATA FORM (NDF)

Date Sampled: |___|___| - |___|___| - |___|___|
MO DA YR

1. SUBJECT'S AGE

Less than 18 years	1
18-24	2
25-29	3
30-34	4
35-39	5
40-44	6
45 or older	7
Unknown	9

2. SUBJECT'S RACE

White	1
Black	2
Asian or Pacific Islander	3
Eskimo, Aleut, American Indian	4
Unknown	9

3. SUBJECT'S ETHNICITY

Hispanic	1	SS ☐
Non-Hispanic	2	
Unknown	9	

4. METHOD OF HOSPITAL PAYMENT

Private	1
Public	2
Unknown	9

5. BIRTHWEIGHT |___|___| |___|___| or |___|___|___|___|
LBS OZ GMS

6. NUMBER OF WEEKS GESTATION |___|___|

7. REASON FOR INTERVIEW NONRESPONSE

Refusal Breakoff	RB
Missed/Discharged	MS
Language Problem - Spanish Only	LP
Hospital Barred Access	HB
Other	ON

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Medical Record Number:

ID:

NPHS

BLINDED STUDY DATA FORM (BSDF)

1. SUBJECT'S AGE

Less than 18 years	1
18-24	2
25-29	3
30-34	4
35-39	5
40-44	6
45 or older	7
Unknown	9

2. SUBJECT'S RACE

White	1
Black	2
Other	3
Unknown	9

3. SUBJECT'S ETHNICITY

Hispanic	1	SS ☐
Non-Hispanic	2	
Unknown	9	

4. METHOD OF HOSPITAL PAYMENT

Private	1
Public	2
Unknown	9

5. SAMPLING INTERVAL (CIRCLE ONE) 1 2 3 4

Westat ID: |___|___|___|-|___|___|___|-|___|___|

NPHS

HAIR INVENTORY RECORD (HIR)

Date Collected: |___|___| - |___|___| - |___|___|
MO DA YR

Interviewer ID: |___|___|___|

1. Have you used permanent color on your hair within the past three months?

YES	1
NO	2
DK	8

2. Have you had a permanent within the past three months?

YES	1
NO	2
DK	8

3. Have you had your hair straightened within the past three months?

YES	1
NO	2
DK	8

4. CURRENT HAIR COLOR (BY OBSERVATION):

BROWN	1	GREY	4
BLACK	2	RED	5
BLOND	3	DK	8

5. SAMPLE STATUS:

SAMPLE TAKEN NO PROBLEM	1
SAMPLE TAKEN PROBLEM	2
SAMPLE NOT TAKEN	3

6. COMMENTS: (INCLUDE PROBLEMS WITH SAMPLE/REASON NOT TAKEN.)

____

____

____

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DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

Alcohol, Drug Abuse, and
Mental Health Administration
Rockville MD 20857

Dear Chief Executive Officer:

I am writing to you today to request your hospital's participation in a very important study, the National Pregnancy and Health Survey, being undertaken by the National Institute on Drug Abuse (NIDA), a part of the Department of Health and Human Services (HHS).

Currently, there is no consensus on the number of infants born each year who have been prenatally exposed to drugs. Data from NIDA's National Household Survey on Drug Abuse shows that 17.3 percent of women in their childbearing years (age 15-44) used an illicit substance at least once during last year. Estimates of the number or percentage of women who actually use drugs while they are pregnant are only available from selected studies and not at the national level. There is a pressing need to obtain a reliable, national estimate of both the extent and the patterns of drug use during pregnancy.

As the lead Federal Agency responsible for supporting research on drug abuse, prevention and treatment, NIDA has initiated the National Pregnancy and Health Survey to obtain reliable and comprehensive information about the prevalence of drug use during pregnancy and the association between such use and two outcome measures--birth weight and infant's length of stay.

We have contracted with Westat, a national research firm, to conduct the survey for us. Your hospital is one of about 100 selected by scientific sampling procedure to participate in the study. The study includes drawing a scientifically selected sample of women, collection of a urine sample upon admission to the hospital, conducting an interview shortly after delivery, and a review and abstract of mother and infant medical records. During the study, the selected sample of women will be interviewed by trained interviewers during their hospital stay following labor and delivery. The urine sample will be used for a toxicologic screen for drug metabolites.

The study design incorporates strict procedures to ensure confidentiality. No information that could be used to identify the individual or your institution will be released or published. Westat has obtained a special Certificate of Confidentiality for this study. This certificate states that under Federal law Westat study personnel cannot be compelled to release the names of research subjects.

Within the next 2 weeks, a Westat member will contact you regarding your hospital's participation and to answer any questions you may have. If you wish to discuss this sooner, please feel free to call Dr. Susan Schober at 301-443-6543.

Your hospital's participation is vital to the success of this research and your cooperation will be greatly appreciated.

Sincerely,

Charles R Schuster

Charles R. Schuster, Ph.D.
Director
National Institute on Drug Abuse

Appendix F

Other Survey Forms

NPHS

The National Pregnancy and Health Survey

U. S. Department of Health and Human Services
U. S. Public Health Service
National Institute on Drug Abuse
5600 Fishers Lane
Rockville, Maryland 20857

Westat
1650 Research Boulevard
Rockville, MD 20850

OMB: 0930-0149
Expires: 08/31/93

CO-PRINCIPAL INVESTIGATOR

BARRY ZUCKERMAN, M.D.
Chief, Division of Developmental and Behavioral Pediatrics
Boston City Hospital
Boston, Massachusetts

ADVISORY COMMITTEE

ROBERT V. BLANKE, Ph.D.
Toxicologist
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Virginia Commonwealth University
Richmond, Virginia

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San Diego, California

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Staff Scientist/Epidemiologist
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Laboratories
Seattle, Washington

ROBERT J. SOKOL, M.D.
Dean
Professor of Obstetrics
and Gynecology
School of Medicine
Wayne State University
Detroit, Michigan

MEDICAL CONSULTANT

MARTIN L. STONE, M.D.
Professor
Department of Obstetrics
and Gynecology
State University of New York
Stony Brook, New York

Dear Participant:

The National Pregnancy and Health Survey is a nationwide survey of women delivering liveborns and is being conducted in about 60 hospitals across the United States. The purpose of the survey is to learn about the behaviors and health practices of women during pregnancy and how these may affect the health of babies. Westat, a national health research firm, has been contracted to conduct this survey by the National Institute on Drug Abuse (NIDA), which is part of the U.S. Public Health Service, U.S. Department of Health and Human Services. It will be used by Federal and state agencies to make decisions regarding medical needs for pregnant women and infants.

Participation in this survey will take about 50 to 60 minutes. Participation includes answering a questionnaire which has questions about previous and current pregnancies. Questions about your current pregnancy will include prenatal care, medical conditions and use of alcohol, tobacco and other legal and illegal drugs. As a separate and independent part of the study, you will also be asked to allow your urine to be tested for licit and illicit drugs and to grant permission to abstract information from your medical record and your baby's medical record.

This survey is authorized by Title 5, Part A, Section 509D of the Public Health Service Act as amended by Public Law 100-690, 42 United States Code, 290aa-11. Your participation is completely voluntary. Refusal to participate will not result in any penalty or loss of benefits to you or your family.

Any information you give me will be kept confidential. Westat has obtained a special Certificate of Confidentiality for this survey. Under this certificate, the Federal government pledges that Westat study personnel cannot be compelled by any person or court of law to release your name or your child's name or to identify your name or your child's name with any answers you give. Names and other identifying information will be destroyed and will not appear in any publication resulting from this study. Results will be published only as statistical summaries.

Your participation is vital to the success of this research and your cooperation will be greatly appreciated.

Sincerely yours,

Diane MCadell
Diane M. Cadell
Project Director, Westat

Ling Chin, M.D., M.P.H.
Project Officer, NIDA

NIH 2722-22 [10/92]

NPHS

The National
Pregnancy and Health Survey

U. S. Department of Health and Human Services
U. S. Public Health Service
National Institute on Drug Abuse
5600 Fishers Lane
Rockville, Maryland 20857

Westat
1650 Research Boulevard
Rockville, MD 20850

O-PRINCIPAL INVESTIGATOR

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hief, Division of Developmental
nd Behavioral Pediatrics
oston City Hospital
oston, Massachusetts

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etroit, Michigan

EDICAL CONSULTANT

ARTIN L. STONE, M.D.
rofessor
epartment of Obstetrics
nd Gynecology
tate University of New York
tony Brook, New York

OMB No.: 0930-0149
Expires: 5/31/93

Dear Participant:

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Participation in this survey will take about 50 to 60 minutes. Participation includes answering a questionnaire which has questions about previous and current pregnancies. Questions about your current pregnancy will include prenatal care, medical conditions and use of alcohol, tobacco and other legal and illegal drugs. As a separate and independent part of the study, you will also be asked for permission to collect a small lock of your hair, to allow your urine and hair to be tested for licit and illicit drugs and to grant permission to abstract information from your medical record and your baby's medical record.

This survey is authorized by Title 5, Part A, Section 509D of the Public Health Service Act as amended by Public Law 100-690, 42 United States Code, 290aa-11. Your participation is completely voluntary. Refusal to participate will not result in any penalty or loss of benefits to you or your family.

Any information you give me will be kept confidential. Westat has obtained a special Certificate of Confidentiality for this survey. Under this certificate, the Federal government pledges that Westat study personnel cannot be compelled by any person or court of law to release your name or your child's name or to identify your name or your child's name with any answers you give. Names and other identifying information will be destroyed and will not appear in any publication resulting from this study. Results will be published only as statistical summaries.

Your participation is vital to the success of this research and your cooperation will be greatly appreciated.

Sincerely yours,

Diane M Cadell

Diane M. Cadell
Project Director, Westat

Ling Chin, M.D., M.P.H.
Project Officer, NIDA

NIH 2722-23 (10/92)

The National Pregnancy and Health Survey

U. S. Department of Health and Human Services
U. S. Public Health Service
National Institute on Drug Abuse
5600 Fishers Lane
Rockville, Maryland 20857

Westat
1650 Research Boulevard
Rockville, MD 20850

OMB: 0930-0149
Expires: 08/31/93

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Wayne State University
Detroit, Michigan

MEDICAL CONSULTANT

MARTIN L. STONE, M.D.
Professor
Department of Obstetrics and Gynecology
State University of New York
Stony Brook, New York

Estimada Participante:

La Encuesta Nacional de Embarazo y Salud es una encuesta nacional de mujeres que dan luz a hijos vivos y está siendo llevada a cabo en alrededor de 60 hospitales en todos los Estados Unidos. El propósito de la encuesta es de conocer el comportamiento y las prácticas de salud de las mujeres durante su embarazo y cómo ello puede afectar la salud de los bebés. Westat, que es una empresa nacional de estudios de investigación, ha sido contratada para llevar a cabo esta encuesta por el Instituto Nacional de Abuso de Drogas (National Institute on Drug Abuse @ NIDA), que es parte del Servicio de Salud Pública de los Estados Unidos (U.S. Public Health Service) del Departamento de Salud y Servicios Humanos (Department of Health and Human Services). Será utilizada for agencias Federales y estatales para tomar decisiones en relación con los requerimientos médicos de mujeres embarazadas e infantes.

La participación en este estudio tomará alrededor de 50 a 60 minutos. La participación incluye responder a un cuestionario que contiene preguntas sobre embarazos actual y previos. Las preguntas sobre su embarazo actual incluirán atención prenatal, condiciones médicas y uso de alcohol, tabaco y otras drogas legales e ilegales. Como parte separada e independiente del estudio, se le pedirá permiso para que se haga un análisis de drogas lícitas e ilícitas de su orina y para que dé permiso para hacer un resumen de su expediente médico y del expediente médico de su bebé.

Esta encuesta está autorizada bajo el Título 5, Parte A, Sección 509D de la Ley de Servicio de Salud Pública, enmendada por la Ley Pública 100-690, 42 Código de Estados Unidos, 290aa-11. Su participación es completamente voluntaria. El negarse a participar no resultará en ninguna penalidad o pérdida de beneficios para usted ni para su familia.

Cualquier información que usted me dé será mantenida confidencialmente. Westat ha obtenido un Certificado de Confidencialidad especial para esta encuesta. De acuerdo con este certificado, el Gobierno Federal queda comprometido a asegurar que el personal de estudio de Westat no podrá ser obligado por ninguna persona o ninguna corte a revelar el nombre suyo o el de su hijo, ni identificar el nombre suyo o el nombre de su hijo con ninguna información recogida en la encuesta. Los nombres y toda otra información de identificación será eliminada y no aparecerá en ninguna publicación resultante de este estudio, y los resultados de la encuesta serán publicados únicamente en forma de resúmenes estadísticos.

Su participación es vital para el éxito de este estudio de investigación y se agradecerá mucho su cooperación.

Atentamente,

Diane M Cadell

Diane M. Cadell
Directora de Proyecto, Westat

Ling Chin, M.D., M.P.H.
Oficial de Proyecto, NIDA

NIH 2722-22 [10/92]

[illegible]

NPHS

The National
Pregnancy and Health Survey

U. S. Department of Health and Human Services
U. S. Public Health Service
National Institute on Drug Abuse
5600 Fishers Lane
Rockville, Maryland 20857

Westat
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Stony Brook, New York

OMB No: 0930-0149
Expires 5/31/93

Estimada Participante:

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La participación en este estudio tomará alrededor de 50 a 60 minutos. La participación incluye responder a un cuestionario que contiene preguntas sobre embarazos actual y previos. Las preguntas sobre su embarazo actual incluirán atención prenatal, condiciones médicas y uso de alcohol, tabaco y otras drogas legales e ilegales. Como parte separada e independiente del estudio, se le pedirá permiso para tomarle un pequeño mechón de su cabello, que permita que se haga un análisis de drogas lícitas e ilícitas de su orina y su pelo y para que dé permiso para hacer un resumen de su expediente médico y del expediente médico de su bebé.

Esta encuesta está autorizada bajo el Título 5, Parte A, Sección 509D de la Ley de Servicio de Salud Pública, enmendada por la Ley Pública 100-690, 42 Código de Estados Unidos, 290aa-11. Su participación es completamente voluntaria. El negarse a participar no resultará en ninguna penalidad o pérdida de beneficios para usted ni para su familia.

Cualquier información que usted me dé será mantenida confidencialmente. Westat ha obtenido un Certificado de Confidencialidad especial para esta encuesta. De acuerdo con este certificado, el Gobierno Federal queda comprometido a asegurar que el personal de estudio de Westat no podrá ser obligado por ninguna persona o ninguna corte a revelar el nombre suyo o el de su hijo, ni identificar el nombre suyo o el nombre de su hijo con ninguna información recogida en la encuesta. Los nombres y toda otra información de identificación será eliminada y no aparecerá en ninguna publicación resultante de este estudio, y los resultados de la encuesta serán publicados únicamente en forma de resúmenes estadísticos.

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Atentamente,

Diane M Cadell

Diane M. Cadell
Directora de Proyecto, Westat

Ling Chin, M.D., M.P.H.
Oficial de Proyecto, NIDA

OMB No.: 0930-0149
Expires: 5/31/93

NATIONAL PREGNANCY AND HEALTH SURVEY

CONSENT FOR MEDICAL RECORD ABSTRACT AND URINE SCREEN

CONSENT FORM

I agree to participate in the National Pregnancy and Health Survey. The purpose of the study is to explore the behaviors and health practices of women during pregnancy and how these practices may affect the health of newborn babies.

I understand that as a separate and independent part of the study, I am being asked to give written permission to allow my urine to be tested and my medical record and my baby's medical record to be reviewed, photocopied and abstracted.

I further understand that participation in this study is completely voluntary and that I may refuse to participate in some or all of the study procedures without any penalty or loss of benefits to me or members of my family.

I further understand that the information I give will be kept confidential. Without my permission, information will not be disclosed to any physician, any employee of this hospital or any other party outside of the research personnel directly connected with this study. Under Federal law Westat personnel cannot be made to give any information that would identify me or my child in any Federal, state, or local civil, criminal, administrative, legislative or other proceedings. My name and any other identifying information will be destroyed and will not appear in any publication resulting from this study. Results will be published only as statistical summaries.

I further understand that all related procedures will be performed at no cost to me. There is no foreseeable risk to my newborn or myself for participating in this study. Although there are no direct benefits to me personally for participating, I understand that my participation may help Federal and state agencies to make decisions regarding the medical needs of pregnant women and infants.

NIH 2722-20 [10/92]

- **Consent for Use of Urine Sample**

A sample of your urine was obtained for routine medical care when you entered the hospital. If you agree, the hospital will release this sample to me for testing. The sample will be marked with a study number. No names or other information that connects the sample to you or your newborn will be entered on the sample. It will be mailed to the study laboratory for testing. Tests will be made for various medications and for illicit drugs, such as cocaine and marijuana. When the sample is tested, it will not be possible to link the results to you or your newborn. The tests are needed only for the study and are not necessary to your care or the care of your baby.

I give my permission for Westat staff to test my urine sample as necessary for this part of the study.

______ I agree   ______ I do not agree

- **Consent for Review and Abstract of Medical Records**

I give my permission for Westat staff to review, photocopy and abstract information, as necessary for study purposes, from the hospital medical record for myself and my newborn baby,

____.
(Infant's name)

______ I agree   ______ I do not agree

____________________________________ Signature   ____________ Date

____ Name (please print)

If you have questions about this research, your rights and responsibilities as a research subject, or research-related injuries, you may contact (name, address, telephone number of hospital representative).

OMB No.: 0930-0149
Expires: 5/31/93

ENCUESTA NACIONAL DE EMBARAZO Y SALUD

CONSENTIMIENTO PARA RESUMEN DE EXPEDIENTE MEDICO, ANALISIS DE ORINA

FORMULARIO DE CONSENTIMIENTO

Estoy de acuerdo en participar en la Encuesta Nacional de Embarazo y Salud. El propósito del estudio es de explorar el comportamiento y las prácticas de salud de las mujeres durante su embarazo y cómo estas prácticas pueden afectar la salud de los recién nacidos.

Entiendo que como parte separada e independiente del estudio, se me está pidiendo que dé permiso por escrito para que se haga un análisis de mi orina y que mi expediente médico y el expediente médico de mi bebé sean revisados, fotocopiados y que se haga un resúmen de los mismos.

Además entiendo que la participación en este estudio es completamente voluntaria y que puedo negarme a participar en algunos o todos los procedimientos del estudio sin penalidad o pérdida de beneficios para mí o para mi familia.

Además entiendo que toda la información que proporcione será mantenida confidencialmente. Sin obtener mi permiso, la información no será entregada a ningún médico, a ningún empleado de este hospital o a ninguna parte que no sea del personal de investigación directamente relacionado con este estudio. Bajo ley Federal el personal de Westat no puede ser obligado a dar ninguna información que me identificaría a mí o a mi hijo en cualquier proceso Federal, estatal o local de tipo criminal, civil, administrativo o legislativo. Mi nombre y toda otra información que me identifique será eliminada y no aparecerá en ninguna publicación resultante de este estudio. Los resultados serán publicados únicamente en forma de resúmenes estadísticos.

Además entiendo que todos los procedimientos relacionados con el estudio serán realizados sin ningún costo para mí. No hay riesgo previsible para mi hijo recién nacido ni para mí por participar en este estudio. Aunque no hay beneficios directos para mí personalmente por participar, entiendo que mi participación podría ayudar a las agencias Federales y estatales a tomar decisiones en relación con los requerimientos médicos de las mujeres embarazadas e infantes.

- **Consentimiento para el Uso de Muestra de Orina**

Una muestra de su orina fue obtenida para atención médica rutinaria cuando usted ingresó en el hospital. Si usted está de acuerdo, el hospital me entregará esa muestra a mí para que la analicemos. La muestra será marcada con un número de estudio. Ningún nombre u otra información que la identifica a usted o a su bebé será marcada en la muestra. La muestra será enviada por correo al laboratorio del estudio para su análisis. Se le harán análisis de medicamentos y de drogas ilícitas, tales como cocaína y marihuana. Cuando la muestra sea analizada, no será posible conectar los resultados con usted o su hijo recién nacido. Los análisis son necesarios solo para el estudio y no son requeridos para la atención médica suya ni la de su bebé.

Doy permiso para que el personal de Westat analice la muestra de mi orina como se requiere para esta parte del estudio.

______ Estoy de acuerdo ______ No estoy de acuerdo

- **Consentimiento para la Revisión y Preparación de Resúmenes de Expedientes Médicos**

Doy permiso para que el personal de Westat revise, fotocopie y prepare un resumen de la información requerida por el estudio, de los expedientes médicos mío y de mi bebé de los archivos del hospital.

____
(Nombre del infante)

______ Estoy de acuerdo _____ No estoy de acuerdo

______________________ Firma _______________ Fecha

______________________ Nombre (por favor, escriba con letra de molde)

Si usted tiene preguntas sobre esta investigación, sus derechos y responsabilidades como objeto de estudio de investigación, o lesiones relacionadas con estudios de investigación, puede contactar a (nombre, dirección y número de teléfono del representante del hospital)

OMB No.: 0930-0149
Expires: 5/31/93

NATIONAL PREGNANCY AND HEALTH SURVEY

CONSENT FOR MEDICAL RECORD ABSTRACT, URINE SCREEN, AND HAIR SCREEN

CONSENT FORM

I agree to participate in the National Pregnancy and Health Survey. The purpose of the study is to explore the behaviors and health practices of women during pregnancy and how these practices may affect the health of newborn babies.

I understand that as a separate and independent part of the study, I am being asked to give written permission to collect a small lock of my hair, to allow my urine and hair to be tested and my medical record and my baby's medical record to be reviewed, photocopied and abstracted.

I further understand that participation in this study is completely voluntary and that I may refuse to participate in some or all of the study procedures without any penalty or loss of benefits to me or members of my family.

I further understand that the information I give will be kept confidential. Without my permission, information will not be disclosed to any physician, any employee of this hospital or any other party outside of the research personnel directly connected with this study. Under Federal law Westat personnel cannot be made to give any information that would identify me or my child in any Federal, state, or local civil, criminal, administrative, legislative or other proceedings. My name and any other identifying information will be destroyed and will not appear in any publication resulting from this study. Results will be published only as statistical summaries.

I further understand that all related procedures will be performed at no cost to me. There is no foreseeable risk to my newborn or myself for participating in this study. Although there are no direct benefits to me personally for participating, I understand that my participation may help Federal and state agencies to make decisions regarding the medical needs of pregnant women and infants.

- **Consent for Use of Urine Sample**

A sample of your urine was obtained for routine medical care when you entered the hospital. If you agree, the hospital will release this sample to me for testing. The sample will be marked with a study number. No names or other information that connects the sample to you or your newborn will be entered on the sample. It will be mailed to the study laboratory for testing. Tests will be made for various medications and for illicit drugs, such as cocaine and marijuana. When the sample is tested, it will not be possible to link the results to you or your newborn. The tests are needed only for the study and are not necessary to your care or the care of your baby.

I give my permission for Westat staff to test my urine sample as necessary for this part of the study.

______ I agree ______ I do not agree

- **Consent for Review and Abstract of Medical Records**

I give my permission for Westat staff to review, photocopy and abstract information, as necessary for study purposes, from the hospital medical record for myself and my newborn baby,

____.
(Infant's name)

______ I agree ______ I do not agree

- **Consent for Testing Hair Sample**

If you agree, a lock of your hair will be clipped from the crown of your head. The lock will be approximately 30 hairs. Scissors will be used to clip the hair close to your scalp. The place where the hair was cut will not be visible. The lock of hair will be stored at the study laboratory and tested at a later date. The sample will be tested for drugs such as cocaine and opiates. The sample will be marked with a study number, no names or other information that connects the sample to you or your newborn will be entered on the sample. When the sample is tested, it will not be possible to link the results to you or your newborn. The tests are needed only for the study and are not necessary for your care or for the care of your baby.

I give my permission for Westat staff to cut a lock of my hair and test it as necessary for study purposes.

__________ I agree __________ I do not agree

___________________________________ Signature ___________ Date

____ Name (please print)

If you have questions about this research, your rights and responsibilities as a research subject, or research-related injuries, you may contact (name, address, telephone number of hospital representative).

OMB No.: 0930-0149
Expires: 5/31/93

ENCUESTA NACIONAL DE EMBARAZO Y SALUD

CONSENTIMIENTO PARA RESUMEN DE EXPEDIENTE MEDICO, ANALISIS DE ORINA Y ANALISIS DE PELO

FORMULARIO DE CONSENTIMIENTO

Estoy de acuerdo en participar en la Encuesta Nacional de Embarazo y Salud. El propósito del estudio es de explorar el comportamiento y las prácticas de salud de las mujeres durante su embarazo y cómo estas prácticas pueden afectar la salud de los recién nacidos.

Entiendo que como parte separada e independiente del estudio, se me está pidiendo que dé permiso por escrito para tomar un pequeño mechón de pelo de mi cabello, que permita que se haga un análisis de mi orina y mi pelo y que mi expediente médico y el expediente médico de mi bebé sean revisados, fotocopiados y que se haga un resúmen de los mismos.

Además entiendo que la participación en este estudio es completamente voluntaria y que puedo negarme a participar en algunos o todos los procedimientos del estudio sin penalidad o pérdida de beneficios para mí o para mi familia.

Además entiendo que toda la información que proporcione será mantenida confidencialmente. Sin obtener mi permiso, la información no será entregada a ningún médico, a ningún empleado de este hospital o a ninguna parte que no sea del personal de investigación directamente relacionado con este estudio. Bajo ley Federal el personal de Westat no puede ser obligado a dar ninguna información que me identificaría a mí o a mi hijo en cualquier proceso Federal, estatal o local de tipo criminal, civil, administrativo o legislativo. Mi nombre y toda otra información que me identifique será eliminada y no aparecerá en ninguna publicación resultante de este estudio. Los resultados serán publicados únicamente en forma de resúmenes estadísticos.

Además entiendo que todos los procedimientos relacionados con el estudio serán realizados sin ningún costo para mí. No hay riesgo previsible para mi hijo recién nacido ni para mí por participar en este estudio. Aunque no hay beneficios directos para mí personalmente por participar, entiendo que mi participación podría ayudar a las agencias Federales y estatales a tomar decisiones en relación con los requerimientos médicos de las mujeres embarazadas e infantes.

- **Consentimiento para el Uso de Muestra de Orina**

Una muestra de su orina fue obtenida para atención médica rutinaria cuando usted ingresó en el hospital. Si usted está de acuerdo, el hospital me entregará esa muestra a mí para que la analicemos. La muestra será marcada con un número de estudio. Ningún nombre u otra información que la identifica a usted o a su bebé será marcada en la muestra. La muestra será enviada por correo al laboratorio del estudio para su análisis. Se le harán análisis de medicamentos y de drogas ilícitas, tales como cocaína y marihuana. Cuando la muestra sea analizada, no será posible conectar los resultados con usted o su hijo recién nacido. Los análisis son necesarios solo para el estudio y no son requeridos para la atención médica suya ni la de su bebé.

Doy permiso para que el personal de Westat analice la muestra de mi orina como se requiere para esta parte del estudio.

______ Estoy de acuerdo ______ No estoy de acuerdo

- **Consentimiento para la Revisión y Preparación de Resúmenes de Expedientes Médicos**

Doy permiso para que el personal de Westat revise, fotocopie y prepare un resumen de la información requerida por el estudio, de los expedientes médicos mío y de mi bebé de los archivos del hospital.

____
(Nombre del infante)

______ Estoy de acuerdo ____ No estoy de acuerdo

- **Consentimiento para Análisis de Muestra de Pelo**

Si usted está de acuerdo, se le cortará un mechón de pelo de la coronilla de su cabeza. El mechón será de aproximadamente 30 pelos. Se utilizarán tijeras para cortar el pelo cerca del cuero cabelludo. No se verá el lugar de donde le cortaremos el pelo. El mechón de pelo será guardado en el laboratorio del estudio y analizado más adelante. Se le hará un análisis de drogas tales como cocaína y opios. La muestra será marcada con un número del estudio, pero ningún nombre u otra información que la conecte a usted o su hijo recién nacido con los resultados será marcada en la muestra. Se necesitan los análisis únicamente para el estudio y no son requeridos para la atención médica suya ni la de su bebé.

Doy permiso para que el personal de Westat corte un mechón de mi pelo y lo analice tal como se requiere para el estudio.

______ Estoy de acuerdo ____ No estoy de acuerdo

______________________ Firma ______________ Fecha

______________________ Nombre (por favor, escriba con letra de molde)

Si usted tiene preguntas sobre esta investigación, sus derechos y responsabilidades como objeto de estudio de investigación, o lesiones relacionadas con estudios de investigación, puede contactar a (nombre, dirección y número de teléfono del representante del hospital)

Federal government pledges that Westat study personnel cannot be compelled by any person or court of law to release your name or your child's name or to identify your name or your child's name with any information collected in the survey. Names and other identifying information will not appear in any publication resulting from this study, and survey results will be published only as statistical summaries.

■ How Can I Help?

By volunteering to participate in this survey, you are helping us gather important information in the best possible way. Your cooperation is the key to the success of this research.

All queries or correspondence
should be directed to:

Merle Klein
National Pregnancy and Health Survey
WESTAT
1650 Research Boulevard
Rockville, Maryland 20850
1-800-WESTAT1

The National Pregnancy and Health Survey

U.S. Department of Health and Human Services
U.S. Public Health Service
National Institute on Drug Abuse
5600 Fishers Lane
Rockville, Maryland 20857

NIH2722-5 [10/92]

What is the National Pregnancy and Health Survey?

The National Pregnancy and Health Survey is designed to collect information on the factors associated with a safe pregnancy and the health and well being of newborns. Everyone has a different experience during pregnancy and we'd like to know something about yours — what your current age is, how many previous children you have had, if you had prenatal care, what infections you may have had, and what substances or medications you may have taken during your pregnancy. Each of these issues, and others covered in the questionnaire, are important factors that impact on the health of pregnant women and newborn babies.

This survey will provide important information about the health and medical needs of pregnant women and their newborn babies.

Who Is Involved in This Study?

The National Pregnancy and Health Survey is being conducted with more than 3,100 women who have just delivered a baby, in about 60 hospitals across the United States. This survey is being conducted by the National Institute on Drug Abuse (NIDA), which is part of the U.S. Public Health Service and the U.S. Department of Health and Human Services. NIDA has contracted with Westat, a national research organization based in the Metropolitan Washington, D.C., area to carry out the study.

Why Should I Participate?

There has never been a survey of this type done before. This is the first nationwide survey that will provide information on the habits and activities of pregnant women from all different backgrounds and regions. Being selected to participate in the National Pregnancy and Health Survey makes you a very special person. Since it was not possible to interview every woman who just delivered a baby, we have selected only a certain number of women who will represent hundreds of women with similar characteristics, who live in the same part of the country. Your selection was the result of a scientific sampling procedure. Although your participation is this survey is completely voluntary, it is important that you participate so that the results will show a true picture of pregnant women across the United States.

How Do I Know Information Will Be Kept Confidential?

All information obtained in the survey will be protected by the confidentiality requirements of the U.S. Public Health Service Act and the Privacy Act of 1974. Your answers will be used only by research staff working on the survey. Each of them must sign a statement pledging to keep confidential all information provided by respondents. In addition, Westat has obtained a special Certificate of Confidentiality for this survey from the Secretary of Health and Human Services. Under this certificate, the

confidencial toda la información proporcionada por las personas entrevistadas. Además, Westat ha obtenido un Certificado de Confidencialidad para esta encuesta. De acuerdo con este certificado, el Gobierno Federal queda comprometido a asegurar que el personal de estudio de Westat no podrá ser obligado por ninguna persona o ninguna corte a revelar el nombre suyo o el de su hijo, ni identificar el nombre suyo o el nombre de su hijo con ninguna información recogida en la encuesta. Los nombres y toda otra información de identificación será eliminada y no aparecerá en ninguna publicación resultante de este estudio, y los resultados de la encuesta serán publicados únicamente en forma de resúmenes estadísticos.

■ ¿Cómo Puedo Ayudar?

Al aceptar participar voluntariamente en este estudio, usted nos estará ayudando a recolectar información importante en la mejor forma posible. Su cooperación es la clave para el éxito de este estudio de investigación.

Todas las preguntas o correspondencia deberá ser dirigida a:

Merle Klein
National Pregnancy and Health Survey
WESTAT
1650 Research Boulevard
Rockville, Maryland 20850
1-800-WESTAT1

ENCUESTA NACIONAL DE EMBARAZO Y SALUD

FOLLETO PARA EL PACIENTE

U.S. Department of Health and Human Services
U.S. Public Health Service
National Institute on Drug Abuse
5600 Fishers Lane
Rockville, Maryland 20857

NIH2722-5 [10/92]

¿Qué es la Encuesta Nacional de Embarazo y Salud?

La Encuesta Nacional de Embarazo y Salud está diseñada para recolectar información sobre los factores que están relacionados con un embarazo seguro y con la salud y bienestar de los recién nacidos. Toda persona tiene una experiencia diferente durante el embarazo, y quisiéramos conocer algunas cosas sobre el suyo @ cuál es su edad actual, cuántos hijos ha tenido usted previamente, si tuvo atención prenatal, las infecciones que usted pudiera haber tenido y las sustancias o medicamentos que pudiera haber tomado durante su embarazo. Cada uno de estos aspectos, y otros cubiertos en el cuestionario, son factores importantes que tienen impacto sobre la salud de las mujeres embarazadas y los bebés recién nacidos.

Esta encuesta proprocionará información importante sobre la salud y los requerimientos médicos de las mujeres embarazadas y sus bebés recién nacidos.

¿Quiénes Participarán en Este Estudio?

La Encuesta Nacional de Embarazo y Salud se está llevando a cabo con más de 3,100 mujeres que recientemente han dado a luz, en aproximadamente 60 hospitales en los Estados Unidos. Esta encuesta está siendo realizada por el Instituto Nacional para el Abuso de Drogas (National Institute for Drug Abuse @ NIDA), que es parte del Servicio de Salud Pública de los Estados Unidos (U.S. Public Health Service) y el Departamento de Salud y Servicios Humanos (Department of Health and Human Services). NIDA ha contratado a Westat, una organización nacional de estudios de investigación basada en el área metropolitana de Washington, D.C., para llevar a cabo este estudio.

¿Por Qué Debería Yo Participar?

Este tipo de estudio nunca se ha hecho anteriormente. Esta es la primera encuesta en todo el país que proporcionará información sobre los hábitos y las actividades de las mujeres embarazadas de todos los orígenes y las diferentes regiones. El ser seleccionada para participar en este estudio la hace una persona muy especial. En vista de que no es posible entrevistar a todas las mujeres que recientemente dieron a luz, hemos seleccionado sólo un número reducido de mujeres quienes representarán cientos de mujeres que tienen características similares, que viven en la misma sección del país. Su selección fue el resultado de un procedimiento de muestreo científico. Aunque la participación suya en esta encuesta es completamente voluntaria, es importante que usted participe para que los resultados muestren un panorama realista de las mujeres embarazadas en los Estados Unidos.

¿Cómo Sé Yo Que la Información se Mantendrá Confidencial?

Toda la información recogida en la encuesta será protegida por los requisitos de confidencialidad de la Ley del Servicio de Salud Pública de los Estados Unidos y la Ley de Privacidad de 1974. Sus respuestas serán utilizadas únicamente por el personal de estudios que está trabajando en la encuesta. Cada una de estas personas tiene que firmar una certificación en la cual se comprometen a mantener

naacog

The Organization for Obstetric, Gynecologic, & Neonatal Nurses

April 5, 1991

Fay Menacker, R.N., C.P.N.P., Dr. P.H.,
Westat WB462
1650 Research Blvd.
Rockville, MD 20850

Dear Dr. Menacker:

NAACOG, the organization for obstetric, gynecologic, and neonatal nurses is pleased to write a letter of support for the first nationwide survey to obtain information on drug use during pregnancy. The measurement of fetal outcomes, specifically birth weight and infant hospital stay, will provide valuable information as we assess the impact of drug use on infants.

Nurses will be critical players in obtaining the survey data, and we are well aware that obstetric and neonatal nurses are on the front lines in the care of those suffering from the effect of drug use during pregnancy. We will eagerly await the outcome of the survey and offer our publications as a mechanism for dissemination of the results.

Cordially,

Sallye B. Shaw

Sallye B. Shaw, R.N., M.N.
Executive Director

cc: Ann L. Ropp
Catherine Garner

409 12th St., S.W.
Washington, DC 20024-2191
(202) 638-0026
FAX (202) 863-2499

American Nurses' Association, Inc.
2420 Pershing Road, Kansas City, Missouri 64108
(816) 474-5720
Fax: (816) 471-4903

Lucille A. Joel, Ed.D., R.N., F.A.A.N.
President

Barbara K. Redman, Ph.D., R.N., F.A.A.N.
Executive Director

Washington Office:
1101 14th Street, N.W.
Suite 200
Washington, D.C. 20005
(202) 789-1800
FAX: (202) 842-4375

April 3, 1991

Fay Menacker, R.N., C.P.N.P., Dr.P.H.
The National Pregnancy and Health Survey
Westat WB-462
1650 Research Blvd.
Rockville, Maryland 20850

Dear Dr. Menacker:

The purpose of this letter is to demonstrate the support of the American Nurses Association (ANA) for the National Pregnancy and Health Survey study. ANA recognizes the importance of this timely nationwide survey to obtain reliable and comprehensive information on drug use during pregnancy. ANA and its Task Force on Substance Abuse/Addictions encourages the funding of nursing and other research designed to identify effective means of preventing and treating drug addiction and the related public health problems of neonatal addictions and AIDS. I will share the protocol describing your study with the ANA Task Force on Drug and Alcohol Abuse/Addiction.

Please let me know if ANA can be of further assistance with this critical work.

Sincerely,

Barbara Redman /smc

Barbara Redman, R.N., Ph.D.
Executive Director
American Nurses Association

BKR:SSM:jf:072

Enclosure

cc: Members, ANA Task Force on Drug and Alcohol Abuse/Addictions

American
Academy of
Pediatrics

141 Northwest Point Blvd
PO Box 927
Elk Grove Village, IL 60009-0927
Phone (708) 228-5005

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Antoinette P. Eaton, MD

Vice President
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Milwaukee, Wisconsin

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Little Rock, Arkansas

George D. Comerci, MD
Tucson, Arizona

Martin Gershman, MD
San Francisco, California

April 8, 1991

Barry Zuckerman, MD
Director, Division of Developmental and
Behavioral Pediatrics
Boston City Hospital
818 Harrison Street
Boston, Massachusetts 02118

Dear Barry:

This is to provide you with the endorsement of the American Academy of Pediatrics for the National Pregnancy and Health Survey being sponsored by the National Institute of Drug Abuse (NIDA). The Academy is pleased that NIDA has undertaken this ambitious study because of the importance of the information that it should yield.

The increase in the number of births of drug-affected infants is alarming. One estimate is that 100,000 so-called "crack babies" are born each year. Infants born to drug using mothers are often very ill at birth and face serious health problems throughout their infancy and beyond. The potential costs of care for these infants have been estimated to be as high as $20 billion annually. Information is needed to help us to understand the relationship between licit and illicit drug use in pregnancy and such outcomes as low birthweight and costs of care in the hope that it will help us in designing preventive programs.

We wish the study team luck in executing this study.

Sincerely,

Antoinette Parisi Eaton, M.D.

Antoinette P. Eaton, MD
President, American Academy of Pediatrics

INTRODUCTORY SCRIPT

Hello, my name is ____________________. I am with Westat, a national health research firm. (AT THIS POINT, INDICATE THAT YOU HOPE THE SUBJECT IS FEELING WELL AND MAKE APPROPRIATE REMARKS ABOUT THE STATUS OF THE BABY IN ORDER TO GAIN RAPPORT.) (GIVE SUBJECT BABY GIFT.)

We are conducting a survey for the National Institute on Drug Abuse, which is part of the U.S. Public Health Service. The name of the study is the National Pregnancy and Health Survey. I would like to tell you about this study and ask for your participation.

The purpose of the National Pregnancy and Health Survey is to gather information on the behaviors and health practices of women during pregnancy and how these practices may affect the health of newborn babies. It is being conducted in about 60 hospitals across the United States. The survey will provide researchers with important information about the health and medical needs of pregnant women and their newborn babies.

Here is a brochure and a letter about the study. (HAND THE SUBJECT THE LETTER AND STUDY BROCHURE.) As you can see from the letter, your participation in this survey is completely voluntary and will consist of answering a questionnaire, allowing your urine to be tested for licit and illicit drugs and granting permission to abstract information from your medical record and your baby's medical record. If you do not wish to participate, this will not result in any penalty or loss of benefits to you or your family. You may consent to any, all or none of the components without any penalty or loss of benefits. (ASK SUBJECT TO TAKE TIME TO READ LETTER OR READ LETTER TO SUBJECT. ANSWER SUBJECT'S QUESTIONS. SHOW CERTIFICATE OF CONFIDENTIALITY TO SUBJECT IF SHE ASKS.)

Now, I would like to obtain some information from you concerning previous pregnancies, and your current pregnancy. The interview will take about 40 to 50 minutes to complete. I will continue now if you agree to participate. (CONDUCT INTERVIEW.)

(AT COMPLETION OF INTERVIEW) Thank you for taking time to complete the interview. As a separate part of this study, we are asking women selected for the National Pregnancy and Health Survey to give written permission to test their urine for medications and other drugs and for their medical record and their baby's medical record to be reviewed. I would like you to read this consent form. (HAND CONSENT.) If you wish, I will read it aloud to you. If you have any questions, I will be glad to answer them.

(After you have read the consent form/After I have read the consent form to you), please check whether or not you agree to urine testing and medical record review and sign and date the form.

INTRODUCTORY SCRIPT

Hola, me llamo ______________________. Estoy trabajando con Westat, una empresa nacional de investigaciones sobre la salud. (AT THIS POINT, INDICATE THAT YOU HOPE THE SUBJECT IS FEELING WELL AND MAKE APPROPRIATE REMARKS ABOUT THE STATUS OF THE BABY IN ORDER TO GAIN RAPPORT.) (GIVE SUBJECT BABY GIFT.)

Estamos llevando a cabo una encuesta para el Instituto Nacional de Abuso de Drogas (National Institute on Drug Abuse), que es parte del Servicio de Salud Pública de los Estados Unidos. El nombre del estudio es la Encuesta Nacional de Embarazo y Salud. Me gustaría hablarle sobre este estudio y pedirle su participación.

El propósito de la Encuesta Nacional de Embarazo y Salud es de recoger información sobre el comportamiento y las prácticas de salud de las mujeres durante su embarazo y cómo dichas prácticas pueden afectar la salud de bebés recién nacidos. Está siendo llevado a cabo en alrededor de 60 hospitales en todos los Estados Unidos. La encuesta le proporcionará a los investigadores información importante sobre la salud y los requerimientos médicos de las mujeres embarazadas y sus hijos recién nacidos.

Aquí tiene un folleto y una carta sobre el estudio. (HAND THE RESPONDENT THE LETTER AND STUDY BROCHURE.) Como puede notar en la carta, su participación en este estudio es completamente voluntaria y consistirá de responder a un cuestionario, dando permiso para hacer un análisis de drogas lícitas e ilícitas de su orina y para hacer un resumen de su expediente médico y del expediente médico de su bebé. Si usted no desea participar, ello no resultará en ninguna penalidad o pérdida de beneficios suyos o de su familia. Usted puede estar de acuerdo con algunos, todos o ninguno de los componentes sin penalidad o pérdida de beneficios. (ASK SUBJECT TO TAKE TIME TO READ LETTER OR READ LETTER TO SUBJECT. ANSWER SUBJECT'S QUESTIONS. SHOW CERTIFICATE OF CONFIDENTIALITY TO SUBJECT IF SHE ASKS.)

Ahora me gustaría obtener una información de usted en relación con embarazos anteriores, y con su embarazo actual. La entrevista tomará alrededor de 40 a 50 minutos para completarla. Ahora continuaré si usted está de acuerdo en participar. (CONDUCT INTERVIEW.)

(AT COMPLETION OF INTERVIEW) Gracias por haber tomado el tiempo para completar la entrevista. Como parte separada de este estudio, estamos pidiéndole a las mujeres que han sido seleccionadas para la Encuesta Nacional de Embarazo y Salud que nos den permiso por escrito para tomar un pequeño mechón de su cabello, para hacer un análisis de medicamentos y otras drogas de su orina y su pelo y para revisar su expediente médico y el expediente médico de sus bebés. Para agradecerle por permitirnos tomar este pequeño mechón de pelo de su cabello, usted recibirá un pago de $5.00. Me gustaría que usted leyera este formulario de consentimiento. (HAND CONSENT.) Si usted lo desea, yo se lo puedo leer a usted. Si usted tiene alguna pregunta, tendré mucho gusto en contestarla.

(Después que usted haya leído el formulario de consentimiento/Después que yo le haya leído el formulario de consentimiento), por favor verifique si usted está o no de acuerdo con que se le tome una muestra y se analice su pelo, se haga un análisis de orina, revisión de expedientes médicos, y luego firme y póngale la fecha al formulario.

INTRODUCTORY SCRIPT

INCLUDING HAIR COMPONENT

Hello, my name is ________________ I am with Westat, a national health research firm. (AT THIS POINT, THE INTERVIEWER WILL INDICATE THAT SHE HOPES THE PATIENT IS FEELING WELL AND WILL MAKE APPROPRIATE REMARKS ABOUT THE STATUS OF THE BABY IN ORDER TO GAIN RAPPORT.) (GIVE S BABY GIFT.)

We are conducting a survey for the National Institute on Drug Abuse, which is part of the U.S. Public Health Service. The name of the study is the National Pregnancy and Health Survey. I would like to tell you about this study and ask for your participation.

The purpose of the National Pregnancy and Health Survey is to gather information on the behaviors and health practices of women during pregnancy and how these practices may affect the health of newborn babies. It is being conducted in about 60 hospitals across the United States. The survey will provide researchers with important information about the health and medical needs of pregnant women and their newborn babies.

Here is a brochure and a letter about the study. (HAND THE RESPONDENT THE LETTER AND STUDY BROCHURE.) As you can see from the letter, your participation in this survey is completely voluntary and will consist of answering a questionnaire, giving permission for me to cut a small lock of your hair, allowing your urine and hair to be tested for licit and illicit drugs and granting permission to abstract information from your medical record and your baby's medical record. To thank you for allowing us to collect this small amount of hair, you will receive a payment of $5.00. If you do not wish to participate, this will not result in any penalty or loss of benefits to you or your family. You may consent to any, all or none of the components without any penalty or loss of benefits. (ASK RESPONDENT TO TAKE TIME TO READ LETTER OR READ LETTER TO RESPONDENT. ANSWER RESPONDENT'S QUESTIONS. SHOW CERTIFICATE OF CONFIDENTIALITY TO RESPONDENT IF SHE ASKS.)

Now, I would like to obtain some information from you concerning previous pregnancies, and your current pregnancy. The interview will take about 40 to 50 minutes to complete. I will continue now if you agree to participate. (CONDUCT INTERVIEW.)

(AT COMPLETION OF INTERVIEW) Thank you for taking time to complete the interview. As a separate part of this study, we are asking women selected for the National Pregnancy and Health Survey to give written permission to collect a small lock of their hair, to test their urine and hair for medications and other drugs and for their medical record and their baby's medical record to be reviewed. To thank you for allowing us to collect this small amount of hair, you will receive a payment of $5.00. I would like you to read this consent form. (HAND CONSENT.) If you wish, I will read it aloud to you. If you have any questions, I will be glad to answer them.

(After you have read the consent form/After I have read the consent form to you), please check whether or not you agree to hair collection and testing, urine testing and medical record review and sign and date the form.

INTRODUCTORY SCRIPT

INCLUDING HAIR COMPONENT

Hola, me llamo ____________________. Estoy trabajando con Westat, una empresa nacional de investigaciones sobre la salud. (AT THIS POINT, INDICATE THAT YOU HOPE THE SUBJECT IS FEELING WELL AND MAKE APPROPRIATE REMARKS ABOUT THE STATUS OF THE BABY IN ORDER TO GAIN RAPPORT.) (GIVE SUBJECT BABY GIFT.)

Estamos llevando a cabo una encuesta para el Instituto Nacional de Abuso de Drogas (National Institute on Drug Abuse), que es parte del Servicio de Salud Pública de los Estados Unidos. El nombre del estudio es la Encuesta Nacional de Embarazo y Salud. Me gustaría hablarle sobre este estudio y pedirle su participación.

El propósito de la Encuesta Nacional de Embarazo y Salud es de recoger información sobre el comportamiento y las prácticas de salud de las mujeres durante su embarazo y cómo dichas prácticas pueden afectar la salud de bebés recién nacidos. Está siendo llevado a cabo en alrededor de 60 hospitales en todos los Estados Unidos. La encuesta le proporcionará a los investigadores información importante sobre la salud y los requerimientos médicos de las mujeres embarazadas y sus hijos recién nacidos.

Aquí tiene un folleto y una carta sobre el estudio. (HAND THE SUBJECT THE LETTER AND STUDY BROCHURE.) Como puede notar en la carta, su participación en este estudio es completamente voluntaria y consistirá de responder a un cuestionario, dándome permiso para tomar un pequeño mechón de su cabello, permitiendo que se haga un análisis de drogas lícitas e ilícitas de su orina y su pelo y dando permiso para hacer un resumen de su expediente médico y del expediente médico de su bebé. Para agradecerle que nos permita tomar esta pequeña cantidad de pelo de su cabello, usted recibirá un pago de $5.00. Si usted no desea participar, ello no resultará en ninguna penalidad o pérdida de beneficios suyos o de su familia. Usted puede estar de acuerdo con algunos, todos o ninguno de los componentes sin penalidad o pérdida de beneficios. (ASK SUBJECT TO TAKE TIME TO READ LETTER OR READ LETTER TO SUBJECT. ANSWER SUBJECT'S QUESTIONS. SHOW CERTIFICATE OF CONFIDENTIALITY TO SUBJECT IF SHE ASKS.)

Ahora me gustaría obtener una información de usted en relación con embarazos anteriores, y con su embarazo actual. La entrevista tomará alrededor de 40 a 50 minutos para completarla. Ahora continuaré si usted está de acuerdo en participar. (CONDUCT INTERVIEW.)

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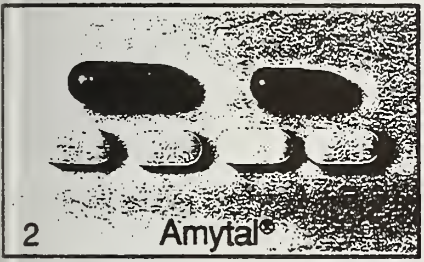
(Después que usted haya leído el formulario de consentimiento/Después que yo le haya leído el formulario de consentimiento), por favor verifique si usted está o no de acuerdo con que se le tome una muestra y se analice su pelo, se haga un análisis de orina, revisión de expedientes médicos, y luego firme y póngale la fecha al formulario.

CARD A

Sedatives

1 Amobarbital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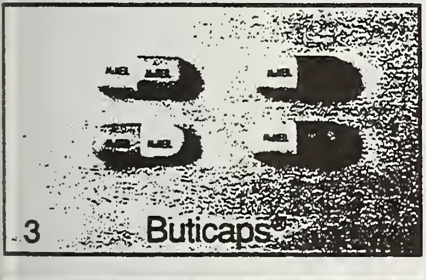
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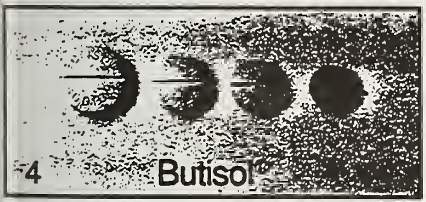
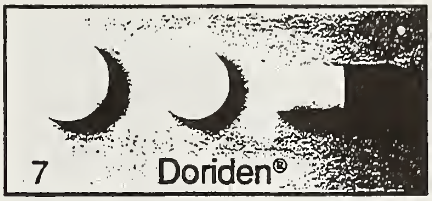

4 Butisol®

5 Chloral Hydrate

6 Dalmane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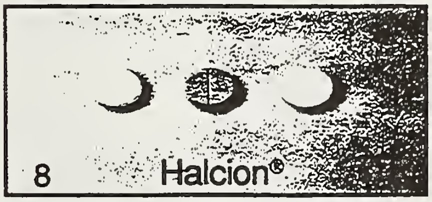
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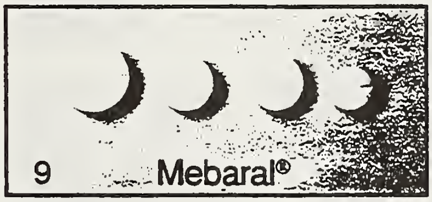
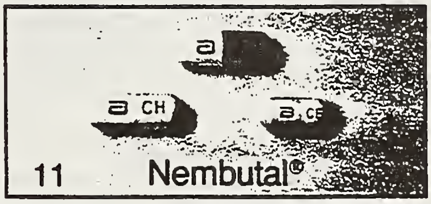

9 Mebaral®

10 Methaqualone (includes SOPOR®, Quāālude®)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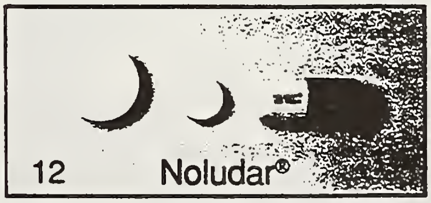
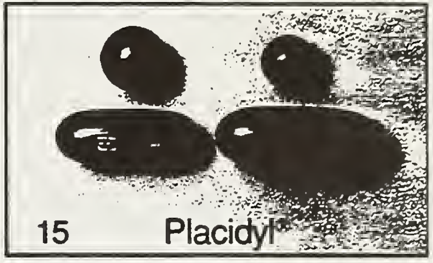

12 Noludar®

13 Pentobarbital

14 Phenobarbital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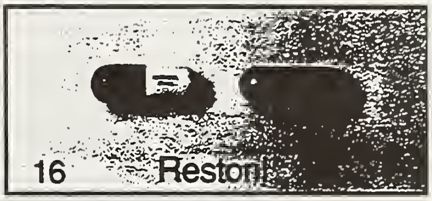
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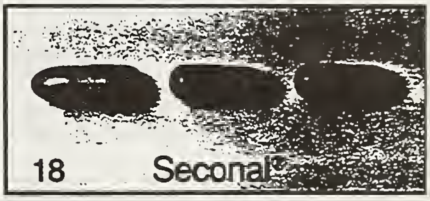
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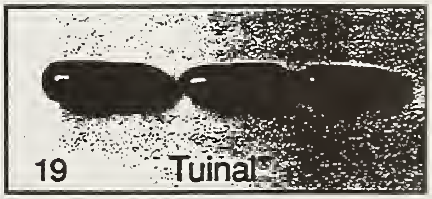
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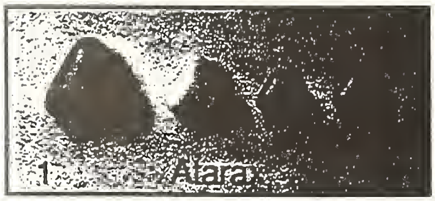
Tranquilizers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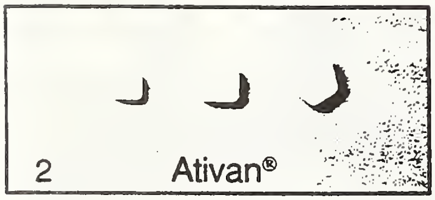
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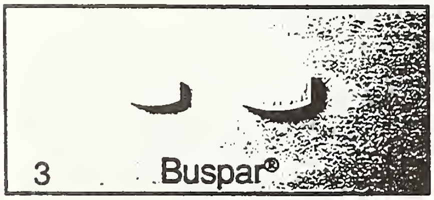
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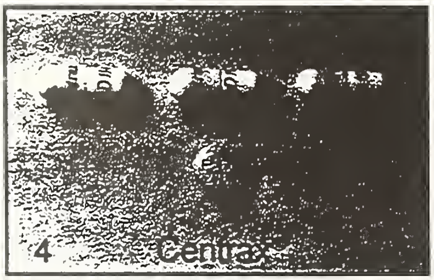
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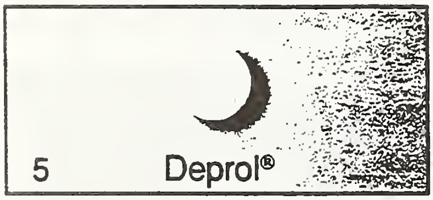
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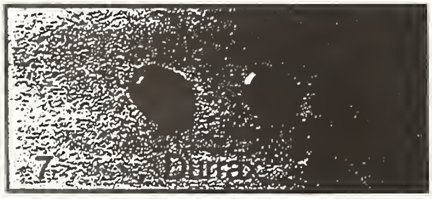
6 Diazepam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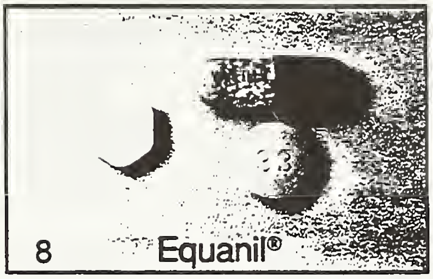
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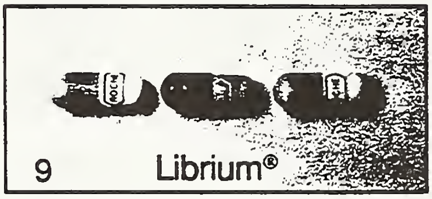
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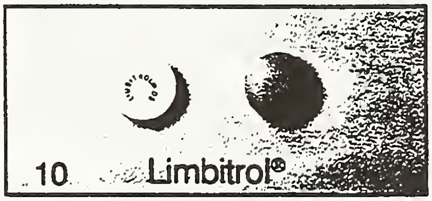
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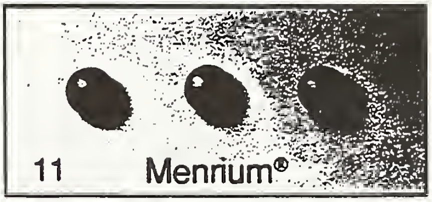
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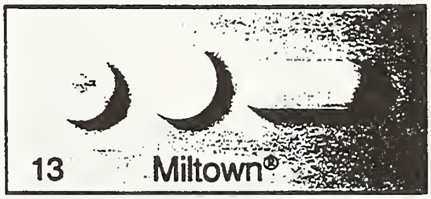
12 Meprobamate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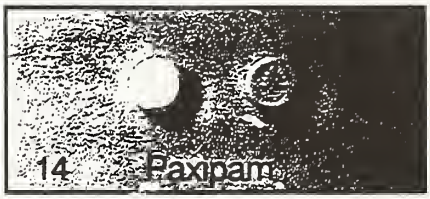
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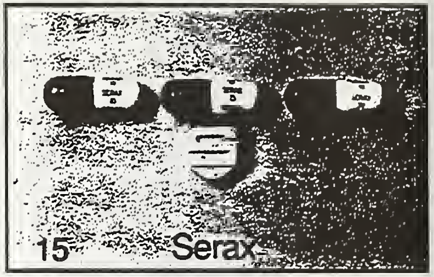
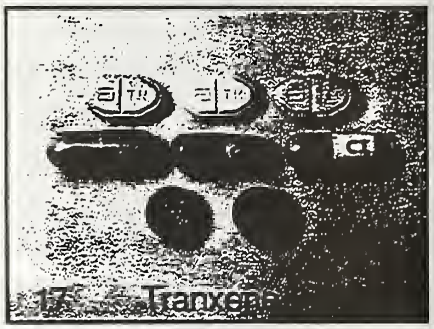

15 Serax

16 SK-Lygen®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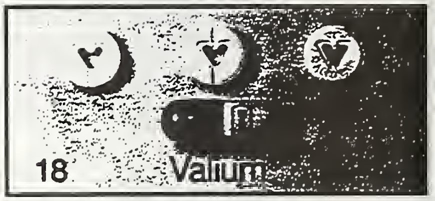
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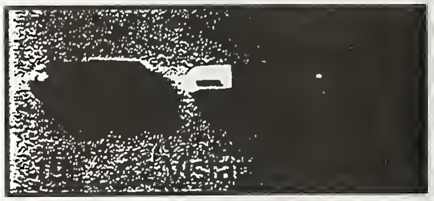
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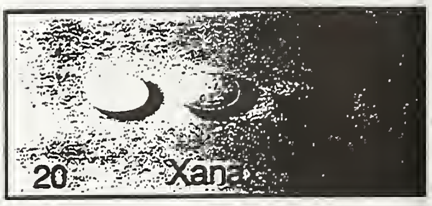
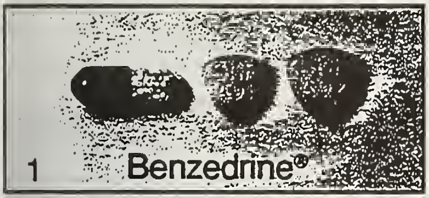

20 Xanax

C/D 8/90

CARD C

Stimulants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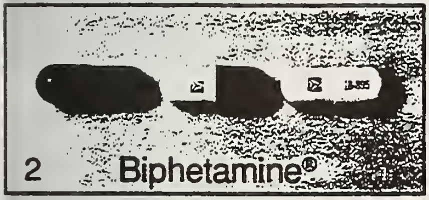
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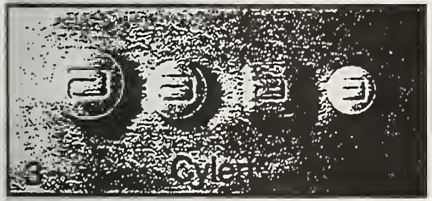
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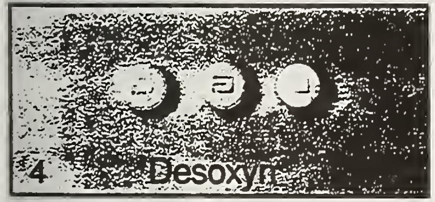
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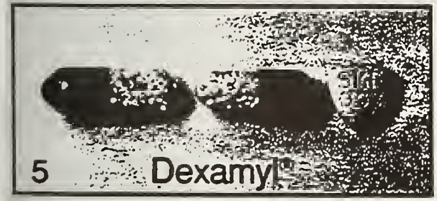
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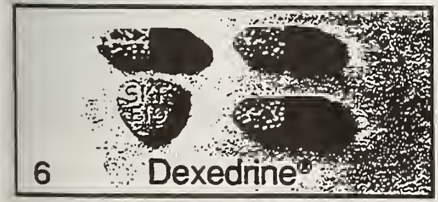
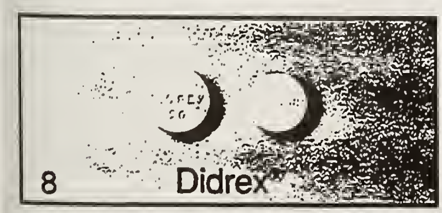

6 Dexedrine®

7 Dextroamphetamine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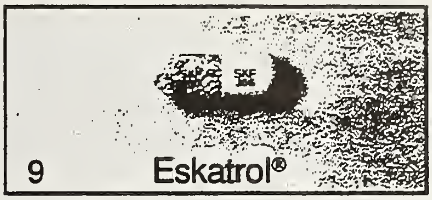
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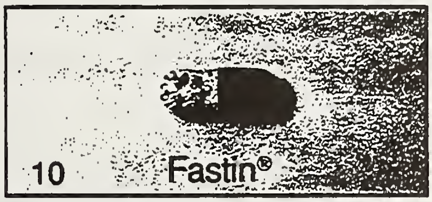
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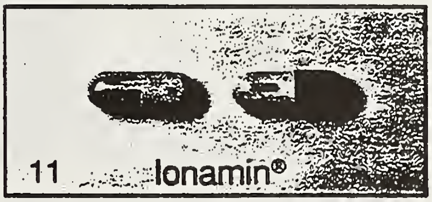
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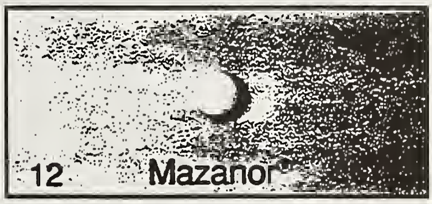
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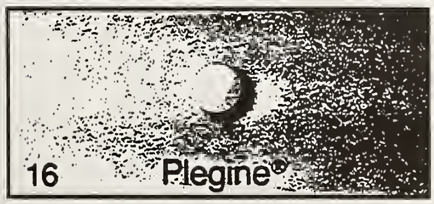
14 Methedrine

15 Obedrin-L.A.®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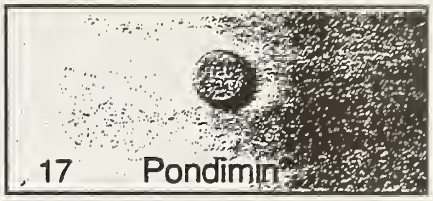
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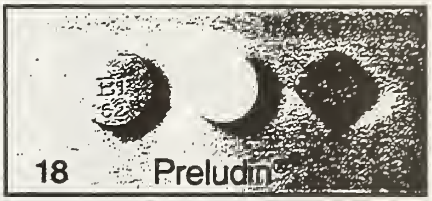
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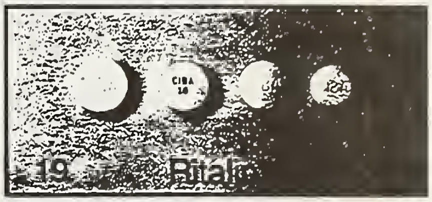
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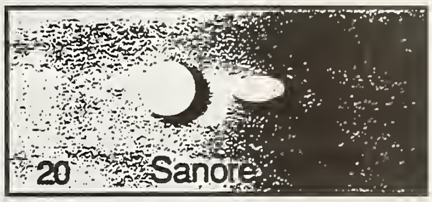
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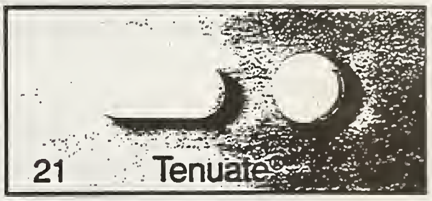
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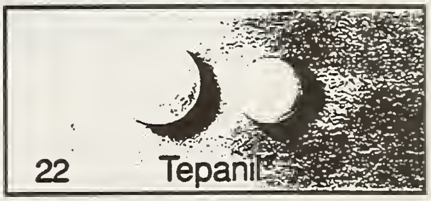
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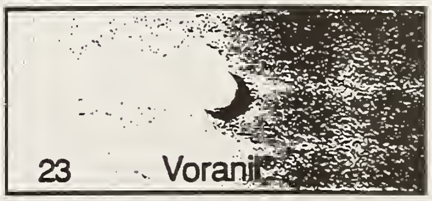
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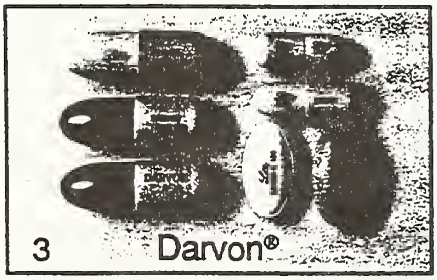
C/D 8/90

Analgesics or "Pain Killers"

1 Anileridine

2 Codeine



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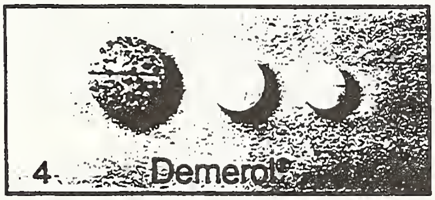

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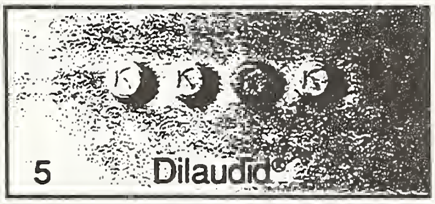

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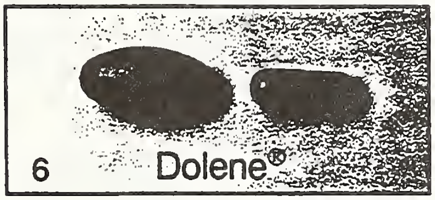
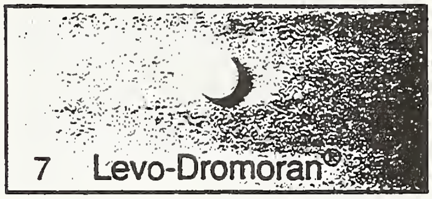


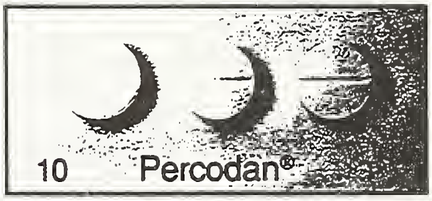
6 Dolene®



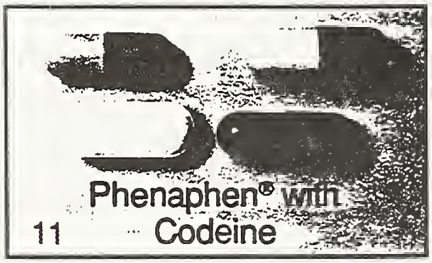
7 Levo-Dromoran®

8 Methadone

9 Morphine

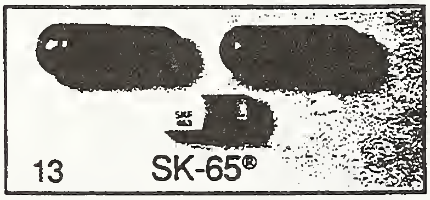


10 Percodan®



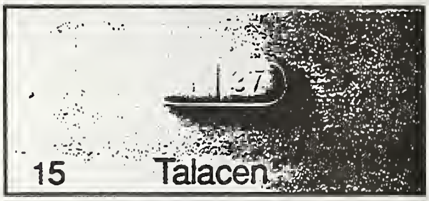
11 Phenaphen® with Codeine

12 Propoxyphene

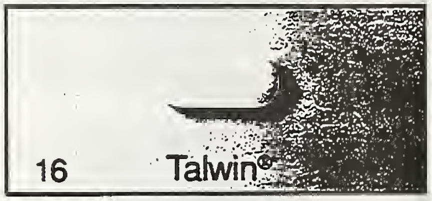


13 SK-65®

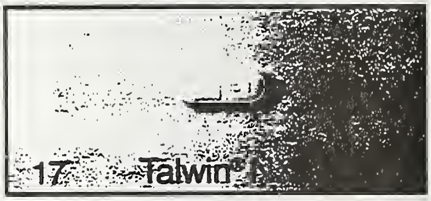
14 Stadol®



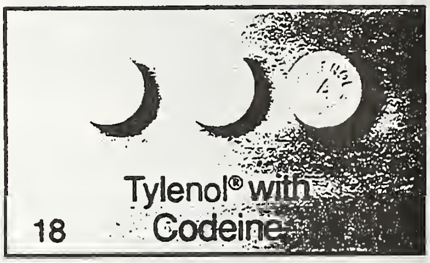
15 Talacen



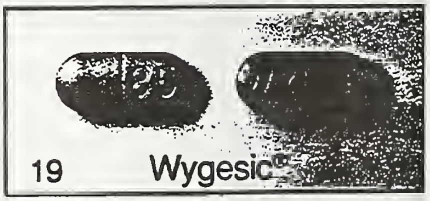
16 Talwin®



17 Talwin® N



18 Tylenol® with Codeine



19 Wygesic®

C/D 8/90

CARD 1

Private doctor's or nurse midwife's office	01
County or city health department	02
Community health center	03
HMO Health Maintenance Organization	04
Clinic at work or school	05
Clinic in a hospital	06
Emergency room in a hospital	07
Other place	96

CARD 2

a. Wages, salaries, fees, rents interest, dividends, or,commissions?

b. AFDC, that is Aid to Families with Dependent Children, public assistance or welfare?

c. Food stamps?

d. Housing assistance or public housing?

e. Social Security or Supplemental Security Income?

f. Unemployment Insurance?

g. Veteran's payments?

h. Child support or alimony from absent parent?

i. Any other source of income?

CARD 3

Wages, that is income from jobs before deductions
Tips
Bonuses
Overtime Pay
Commissions
Net income after expenses if self-employed
Social Security
Supplemental Security Income (SSI)
Public Assistance
Interest
Dividends
Alimony
Child Support
Veterans Benefits
Unemployment Compensation

CARD 4

Annual Income

A.	No Income	01
B.	Under $5,000	02
C.	$5,000 to $6,300	03
D.	$6,301 to $8,450	04
E.	$8,451 to $10,600	05
F.	$10,601 to $12,700	06
G.	$12,701 to $14,850	07
H.	$14,851 to $17,000	08
I.	$17,001 to $19,000	09
J.	$19,001 to $21,300	10
K.	$21,301 to $25,000	11
L.	$25,001 to $30,000	12
M.	$30,001 to $40,000	13
N	$40,001 to $50,000	14
O.	$50,001 to $75,000	15
P.	$75,001 or More	16

Weekly Income

A.	No Income	01
B.	$1 to $96	02
C.	$97 to $120	03
D.	$121 to $160	04
E.	$161 to $200	05
F.	$201 to $245	06
G.	$246 to $285	07
H.	$286 to $325	08
I.	$326 to $370	09
J.	$371 to $410	10
K.	$411 to $480	11
L.	$481 to $576	12
M.	$577 to $769	13
N.	$770 to $961	14
O.	$962 to $1,441	15
P.	$1,442 or More	16

CARD 5

a. Your own income or your husband/partner's own income.

b. Parents, other relatives, boyfriend or his family.

c. Insurance, including HMO health maintenance organizations which you carry or is carried for you.

d. Medicaid.

e. Government assistance other than Medicaid, that is state or local assistance.

f. Another source.

CARD 6

NON-MEDICAL USE, NOT UNDER DOCTOR'S ORDERS MEANS:

1. You took them without a doctor's prescription.
2. You took them in greater amounts than prescribed.
3. You took them more often than prescribed.
4. You took them at a different time than when they were prescribed.
5. You took them for any reasons other than a doctor said that you should take them, such as for kicks, to get high, to feel good, or curiosity about a pill's effect.

TARJETA 1

Oficina privada de médico o de enfermera partera	01
Departamento de salud de ciudad o condado	02
Centro de salud comunitario o del vecindario	03
Organización de Mantenimiento de la Salud (HMO)	04
Clínica escolar o en el trabajo	05
Clínica de hospital	06
Sala de emergencia de un hospital	07
Otro lugar	96

TARJETA 2

a. Sueldos y salarios, así como honorarios, rentas, intereses, dividendos o comisiones

b. AFDC, es decir Ayuda a Familias con Hijos Dependientes, asistencia pública o servicios de asistencia social?

c. Cupones de alimentos?

d. Ayuda para la vivienda o vivienda pública?

e. Seguridad Social o Seguridad de Ingreso Suplemental

f. Seguro por desempleo

g. Pagos de veteranos?

h. Mantenimiento de hijos o pensión alimenticia de padres ausentes?

i. Alguna otra fuente de ingreso?

TARJETA 3

El ingreso antes de cualquier deducciones

Propinas

Bonos

Pagos por sobretiempo

Comisiones

Ingreso neto después de gastos por trabajo por cuenta propia

Seguro social

Seguridad de Ingreso Supplemental

Asistencia Pública

Intereses

Dividendos

Pensión alimenticia

Mantenimiento de hijos

Beneficios de veteranos

Pagos por desempleo

TARJETA 4

Ingreso Anual

A.	No Income	01
B.	Under $5,000	02
C.	$5,000 to $6,300	03
D.	$6,301 to $8,450	04
E.	$8,451 to $10,600	05
F.	$10,601 to $12,700	06
G.	$12,701 to $14,850	07
H.	$14,851 to $17,000	08
I.	$17,001 to $19,000	09
J.	$19,001 to $21,300	10
K.	$21,301 to $25,000	11
L.	$25,001 to $30,000	12
M.	$30,001 to $40,000	13
N	$40,001 to $50,000	14
O.	$50,001 to $75,000	15
P.	$75,001 or More	16

Ingreso Semanal

A.	No Income	01
B.	$1 to $96	02
C.	$97 to $120	03
D.	$121 to $160	04
E.	$161 to $200	05
F.	$201 to $245	06
G.	$246 to $285	07
H.	$286 to $325	08
I.	$326 to $370	09
J.	$371 to $410	10
K.	$411 to $480	11
L.	$481 to $576	12
M.	$577 to $769	13
N.	$770 to $961	14
O.	$962 to $1,441	15
P.	$1,442 or More	16

TARJETA 5

a. Su propio ingresó o el ingreso propio de su esposo/compañero?

b. Padres, otros familiares, amigo o familia del amigo?

c. Seguro, incluyendo una Organización de Mantenimiento de la Salud/HMO a la que usted pertenece o a la que alguien paga por usted?

d. Medicaid?

e. Asistencia del gobierno diferente a Medicaid, que es asistencia del estado o local?

f. Otra fuente?

TARJETA 6

USO NO MEDICO O NO BAJO ORDEN DEL MEDICO INCLUYE:

1. Usted las tomó sin receta de un médico.
2. Usted las tomó sin cantidad mayor que la receta.
3. Usted las tomó con mayor frecuencia a la recetada.
4. Usted las tomó en tiempos diferentes a los que que fueron recetados.
5. Usted las tomó por cualquier razón que no fuera proque un médico le dijo que las tomara, como para exitarse, para sentirse bien o por curiosidad sobre el efecto de una píldora.

ID#:

OMB: 0930-0149
Fecha de Expiración: 05/31/93

Interviewer ☐☐☐☐

ENCUESTA NACIONAL DE EMBARAZO Y SALUD

Interviewer Administered Questionnaire

La carga de reportaje pública para esta recolección de información ha sido estimada en un promedio de 60 minutos por entrevista, incluyendo el tiempo requerido para revisar las instrucciones, buscar las fuentes de datos existentes, recoger y mantener la información necesaria y completar y revisar la recolección de información. Envíe comentarios en relación con el estimado de esta carga o cualquier otro aspecto de esta recolección de información, incluyendo sugerencias para reducir la carga, a: PHS Reports Clearance Officer; ATTN: PRA; Hubert H. Humphrey Bldg., Rm 721-B; 200 Independence Ave., S.W.; Washington, DC 20201, y al Office of Management and Budget; Paperwork Reduction Project (0930-0149); Washington, DC 20503.

NIH 2722-1 [10/92]

START TIME
|__|__| : |__|__| am
pm

PART I. OBSTETRICAL HISTORY

Estas primeras preguntas tratan sobre su reciente embarazo. (GIVE S CALENDAR FOR REFERENCE)

1. ¿Qué fecha de nacimiento le informó su médico que iba a tener su bebé?

|__|__|-|__|__|-|__|__|
MO DY YR
DK 989898

BOX A

Q1 CONTAINS DATE, OR EDC RECORDED ON CRF,
OR # WKS GESTATION ON CRF 1 (Q5)
OTHERWISE 2 (Q1a)

1a. En el momento del parto, ¿le dijo su médico que su bebé había llegado:

A tiempo, ... 1 (Q2)
Tarde, ... 2 (Q1b)
Antes de la fecha (temprano)? 3 (Q1b)
DK 8 (Q2)

1b. ¿Cuántas semanas (tarde/temprano)?

|__|__|
WEEKS
DK 98

2. ¿En qué fecha pensó usted que tendría su bebé?

|__|__|-|__|__|-|__|__|
MO DY YR
DK 989898

3. ¿En qué fecha piensa usted que salió embarazada?

|__|__|-|__|__|-|__|__|
MO DY YR
DK 989898

4. ¿Cuántas semanas de embarazo tenía usted cuando dio a luz?

|__|__|
WEEKS

5. ¿En qué fecha tuvo usted su último período menstrual? (PROBE FOR 1st DAY OF LAST MENSTRUAL PERIOD)

|___|___|-|___|___|-|___|___|
MO DY YR

6. ¿En qué fecha supo usted que estaba embarazada? (PROBE FOR DATE. IF NO DAY, PROBE: ¿Fué al principio, a mediados o a fines de mes?)

|___|___|-|___|___|-|___|___|
MO DY YR

DAY	BEGINNING (1-10)	1
	MIDDLE (11-20)	2
	END (21-31)	3

7. ¿Obtuvo usted alguna atención prenatal durante este embarazo? La atención prenatal incluye exámenes de embarazo hechos en una clínica u oficina de médico así como chequeos prenatales relacionados con el embarazo.

YES	1	(Q8)
NO	2	(Q13)

8. ¿Cuándo hizo usted su primera visita prenatal?

|___|___|-|___|___|-|___|___|
MO DY YR
DK 989898

9. Más o menos, ¿cuántas semanas de embarazo tenía usted cuando hizo su primera visita prenatal?

|___|___|
WEEKS
DK 98

10. Más o menos, ¿cuántas visitas prenatales hizo usted? (PROBE: ¿Cuántas visitas hizo una vez por mes, cuántas cada dos semanas, cuántas visitas semanales, y cuántas visitas hizo al final?)

|___|___|
VISITS
DK 98

11. Fíjese en esta tarjeta y por favor dígame, ¿en cuál tipo de lugar obtuvo usted la mayor parte de su atención prenatal?

SHOW CARD 1

Oficina privada de médico o de enfermera partera....	01
Departamento de salud de ciudad o condado...........	02
Centro de salud comunitario o del vecindario............	03
Organización de Mantenimiento de la Salud (HMO)..	04
Clínica escolar o en el trabajo	05
Clínica de hospital...	06
Sala de emergencia de un hospital............................	07
Otro lugar (SPECIFY)______________________ ______________________	96
DK..	98

12. ¿Cuáles de los siguientes servicios de atención prenatal recibió usted durante este embarazo:

		YES	NO	DON'T KNOW
a.	Exámen de embarazo?..	1	2	8
b.	Chequeos prenatales?..	1	2	8
c.	Análisis de laboratorio?	1	2	8
d.	Sonograma o ultrasonido?..	1	2	8
e.	Rayos-X	1	2	8
f.	Muestra de amniocentesis o vellosidad coriónica?..	1	2	8
g.	Visitas de emergencia?...	1	2	8
h.	Algún otro servicio prenatal (SPECIFY)?...................... ______________________ ______________________	1	2	8

13. ¿Tuvo usted dificultad para obtener atención prenatal durante su embarazo por alguna de las razones siguientes:

		YES	NO	DK
a.	Problemas de dinero o con seguro?	1	2	8
b.	Problemas de citas, trabajo o transporte?	1	2	8
c.	Problemas con proveedores de cuidado de la salud, tales como que tuvo que esperar mucho tiempo; le tenía miedo a los exámenes; no le gustaban las actitudes de los médicos o las enfermeras; no acceptaban Medicaid; las horas de oficina no eran convenientes?	1	2	8
d.	Cualquier otro problema, tal como que usted no sabía que estaba embarazada; no quería que otra persona supiera; tenía muchos otros problemas? (ESPECIFIQUE) ______________________	1	2	8

14. ¿Recibió alimentos WIC (Programa de Mujeres, Infantes y Niños) para usted durante este embarazo?

YES	1
NO	2

15. ¿Cuántas libras pesó usted inmediatamente antes de estar embarazada?

|___|___|___|
WT. IN LBS.
DK 998

16. ¿Cuántas libras pesó usted inmediatamente antes de dar a luz?

|___|___|___|
WT. IN LBS.
DK 998

17. ¿Cuánto mide usted de altura?

|___|___| |___|___|
FT IN
DK 9898

18. Antes de salir embarazada, ¿tuvo usted algunas de las siguientes condiciones médicas:

		YES	NO	DK
a.	Diabetes, o diabetes de azúcar?	1	2	8
b.	Alta presión de la sangre?	1	2	8
c.	Ataques, tales como de epilepsia?	1	2	8
d.	Alguna otra condición crónica? (SPECIFY)	1	2	8

____

19. ¿Desarrolló usted alguna de las condiciones médicas siguientes durante su embarazo:

		YES	NO	DK
a.	Anemia?	1	2	8
b.	Alta presión de la sangre, incluyendo toxemia o preeclampsia?	1	2	8
c.	Diabetes o diabetes de azúcar?	1	2	8

20. Durante su reciente embarazo, ¿tuvo usted alguna de las siguientes infecciones:

		YES	NO	DK
a.	Infección de la vía urinaria?	1	2	8
b.	Clamidia?	1	2	8
c.	Sífilis?	1	2	8
d.	Gonorrea?	1	2	8
e.	Herpes genital?	1	2	8
f.	Alguna otra enfermedad trasmitida sexualmente? (SPECIFY) ____________	1	2	8

____

(FOR EACH YES IN 20 ASK:)

21. ¿Tomó usted antibióticos para esta (INFECCIÓN):

		YES	NO	DK
a.	Infección de la vía urinaria?	1	2	8
b.	Clamidia?	1	2	8
c.	Sífilis?	1	2	8
d.	Gonorrea?	1	2	8
e.	Herpes genital?	1	2	8
f.	Alguna otra enfermedad trasmitida sexualmente? (SPECIFY) ____________	1	2	8

____

22. ¿Tomó usted antibióticos por alguna (otra) razón durante su embarazo?

YES (SPECIFY THE REASON) ________ 1

____

NO... 2

23. ¿Cuántas veces ha estado usted embarazada antes de este embarazo? Incluya todos los que terminaron con hijos nacidos vivos, aborto natural, hijos nacidos muertos, abortos inducidos y embarazos ectópicos.

|___|___| (Q24)
PREGNANCIES
NONE ....00 (GO TO PART II)

24. ¿Cuántos de estos embarazos terminaron con:

a. el parto de un hijo nacido vivo?
(partos múltiples cuentan como 1 embarazo) |___|___|
NUMBER

b. un aborto natural, es decir, un aborto espontáneo, pérdida, previo a las 20 semanas de embarazo? |___|___|
NUMBER

BOX B

LIVEBIRTHS PLUS MISCARRIAGES
EQUAL TOTAL PREGNANCIES
(Q24 a+b = Q23) 1 (Q25)

LIVEBIRTHS PLUS MISCARRIAGES
NOT EQUAL TO TOTAL PREGNANCIES
(Q24 a+b ≠ Q23) 2 (Q24c)

c. el parto de un hijo nacido muerto a las 20 semanas de embarazo o después? |___|___|
NUMBER

d. un embarazo ectópico? |___|___|
NUMBER

e. un aborto inducido? |___|___|
NUMBER

25. ¿Cuál fue el resultado de su último embarazo?

LIVEBIRTH	1
SPONTANEOUS ABORTION	2
STILLBIRTH	3
INDUCED ABORTION	4
ECTOPIC PREGNANCY	5

26. ¿Cuándo sucedió eso?

|___|___|-|___|___|-|___|___|
MO DY YR

BOX C

S DID NOT HAVE A PREVIOUS LIVE BIRTH
(Q24 a = 00) .... 1 (PART II)

S DID HAVE A PREVIOUS LIVE BIRTH
(Q24 a ≠ 00) 2 (Q27)

Ahora quisiera alguna información sobre sus hijos anteriores nacidos vivos.
(READ QUESTIONS 27, 28 AND 29 FOR EACH LIVE BIRTH BEFORE GOING ON TO THE NEXT LIVE BIRTH)

<table>
<tr><th>27. ¿Cuánto pesó su (primer/segundo/tercer/etc.) hijo nacido vivo al nacer?</th><th>28. ¿Cuándo nació ese bebé?</th><th>29. ¿Fue el parto de ese bebé más de dos semanas antes de la fecha estimada por el médico?</th></tr>
<tr><td>1. |___|___| - |___|___|
LB OZ</td><td>|___|___| - |___|___| - |___|___|
MO DY YR</td><td>YES 1
NO................ 2
DK .... 8</td></tr>
<tr><td>2. |___|___| - |___|___|
LB OZ</td><td>|___|___| - |___|___| - |___|___|
MO DY YR</td><td>YES 1
NO................ 2
DK .... 8</td></tr>
<tr><td>3. |___|___| - |___|___|
LB OZ</td><td>|___|___| - |___|___| - |___|___|
MO DY YR</td><td>YES 1
NO................ 2
DK .... 8</td></tr>
<tr><td>4. |___|___| - |___|___|
LB OZ</td><td>|___|___| - |___|___| - |___|___|
MO DY YR</td><td>YES 1
NO................ 2
DK .... 8</td></tr>
<tr><td>5. |___|___| - |___|___|
LB OZ</td><td>|___|___| - |___|___| - |___|___|
MO DY YR</td><td>YES 1
NO................ 2
DK .... 8</td></tr>
<tr><td>6. |___|___| - |___|___|
LB OZ</td><td>|___|___| - |___|___| - |___|___|
MO DY YR</td><td>YES 1
NO................ 2
DK .... 8</td></tr>
</table>

USE CONTINUATION SHEET FOR DATA OVERFLOW

CHECK BOX IF CONTINUATION SHEET USED ☐

PART II - DEMOGRAPHY

Las preguntas siguientes son sobre sus antecedentes y su situación actual.

30. ¿Cuál es su fecha de nacimiento?

|___|___|-|___|___|-|___|___|
MO DY YR
DK.. 989898

31. ¿Está/Es usted actualmente:

Casada..	1
No casada, pero vive con un compañero o amigo	2
Viuda..	3
Divorciada	4
Separada, o..	5
Nunca se casó?	6

32. ¿Es usted de origen hispano o español?

YES..	1	(Q33)
NO..	2	(Q34)

33. ¿Cuál de los grupos siguientes la describe mejor a usted?

Puertorriqueña, ...	1
Cubana, ...	2
Mexicana, Chicana, Mexicana-Americana	3
Centroamericana o Suramericana	4
De otro origen hispano?	5

34. ¿Cuál de los grupos siguientes describe mejor sus antecedentes raciales?

Blanca, ...	1
Negra, ...	2
Asiática o Isleña del Pacifico	3
Esquimal, Aleutina o India Americana?	4

35. ¿Cuál es el último grado o año escolar que usted ha completado? No incluya escuelas vocacionales, técnicas o comerciales.

DID NOT	00
PRIMARY	01 02 03 04 05 06 07 08
SECONDARY	09 10 11 12
COLLEGE	13 14 15 16
GRADUATE/PROFESSIONAL SCHOOL	17 (O MAS)
DK	98

36. ¿Cuántos años de escuela vocacional, técnica o comercial ha completado usted?

|___|___|
YRS

NONE	00

BOX D

Q35 IS GRADE 12 OR GREATER	1	(Q38)
Q35 IS LESS THAN GRADE 12	2	(Q37)

37. ¿Tiene usted un GED o un Diploma de Equivalencia de Secundaria (High School)?

YES	1
NO	2

38. Piense acerca del mes antes de su embarazo. Durante ese mes, ¿qué hizo usted la mayor parte del tiempo?

Trabajando,	01	(Q39)
Tenía un trabajo pero no estaba trabajando por alguna razón,	02	(Q41)
Desempleada,	03	(Q40)
Ama de casa a tiempo completo,	04	(Q40)
Asistiendo a la escuela, o	05	(Q40)
Alguna otra cosa? (SPECIFY)____________	96	(Q40)

39. ¿Estaba usted trabajando a tiempo parcial, es decir, menos de 35 horas por semana, o a tiempo completo?

PART TIME	1	(Q41)
FULL TIME	2	(Q41)

40. ¿Estaba usted buscando trabajo?

YES	1
NO	2

41. En los 12 meses antes de dar a luz, en total, ¿cuántas personas vivieron en su hogar, incluyéndose a usted misma? (IF S LIVED IN MORE THAN ONE HOUSEHOLD, PROBE: Hábleme sobre el hogar en donde usted vivió más tiempo en los 12 meses antes de dar a luz.)

|___|___| (Q42)
RESIDENTS IN HOUSEHOLD
S LIVES ALONE 01 (Q43)

42. ¿Cuántas de estas personas tienen una relación de parentesco con usted por nacimiento o matrimonio?

|___|___|
MEMBERS OF FAMILY

43. Por favor, dígame ¿cuáles de las siguientes fueron fuentes de ingreso o de asistencia para usted (y para las personas que vivieron en su hogar) durante los 12 meses antes de que usted diera a luz? (IF S LIVED IN MORE THAN ONE HOUSEHOLD, PROBE: Hábleme sobre el hogar en donde usted vivió más tiempo durante los 12 meses antes de dar a luz.)

SHOW CARD 2

	YES	NO	NS
a. Sueldos y salarios, así como honorarios, rentas, intereses, dividendos o comisiones?	1	2	8
b. AFDC, es decir Ayuda a Familias con Hijos Dependientes, asistencia pública o servicios de asistencia social?	1	2	8
c. Cupones de alimentos?	1	2	8
d. Ayuda para la vivienda o vivienda pública?	1	2	8
e. Seguro Social o Seguro de Ingreso Suplemental?...	1	2	8
f. Seguro por desempleo?	1	2	8
g. Pagos de veteranos?	1	2	8
h. Mantenimiento de hijos o pensión alimenticia de padres ausentes?	1	2	8
i. Alguna otra fuente de ingreso?	1	2	8

BOX E

S LIVED ALONE (Q41 = 01) 1 (Q47)
S LIVED WITH OTHERS (Q41 ≠ 01) 2 (Q44)

44. IF Q43b = YES, ASK: Durante los 12 meses antes de dar a luz, ¿recibió usted misma AFDC, es decir, Ayuda a Familias con Hijos Dependientes, asistencia pública o asistencia social?

YES 1
NO.. 2

45. IF Q43e = YES, ASK: Durante los 12 meses antes de dar a luz, ¿recibió usted misma Seguro Social o Seguro de Ingreso Suplemental, o SSI?

YES	1
NO	2

BOX F

S LIVED ONLY WITH NON-FAMILY MEMBERS (Q42 = 00)	1	(Q47)
S LIVED WITH FAMILY MEMBERS (Q42 ≠ 00)	2	(Q46)

46. **SHOW CARDS 3 AND 4**

Esta pregunta que sigue es sobre el Ingreso Total Combinado Familiar. Por ingreso familiar nos referimos al ingreso de todos los individuos que tienen relación de parentesco con usted por nacimiento o matrimonio que viven en la casa suya. Este sería el ingreso de las (Q42) personas de quienes usted me habló y el suyo. Fíjese en esta tarjeta de fuentes de ingreso. (SHOW CARD 3). Incluya el ingreso antes de cualquier deducciones, propinas, bonos, pagos por sobretiempo, comisiones, ingreso neto después de gastos por trabajo por cuenta propia, de Seguro Social, Seguro de Ingreso Suplemental, asistencia pública, intereses, dividendos, pensión alimenticia, mantenimiento de hijos o cualquier otra fuente tal como pagos de beneficios de veteranos o pagos por desempleo. Usando esta tarjeta (SHOW CARD 4), por favor dígame la letra que representa mejor el Ingreso Total Combinado Familiar para los 12 meses antes de dar a luz. (IF S LIVED IN MORE THAN ONE HOUSEHOLD, PROBE: Hábleme sobre el hogar en donde usted vivió más tiempo durante los 12 meses antes de dar a luz.)

Si usted piensa en el ingreso como la cantidad POR AÑO, fíjese en esta columna.			Si usted piensa en el ingreso como la cantidad POR SEMANA, fíjese en esta columna.		
	Ingreso Anual			Ingreso Semanal	
A.	No tuvo ingreso	01	A.	No tuvo ingreso	01
B.	Menos de $5,000	02	B.	$1 a $96	02
C.	$5,000 a $6,300	03	C.	$97 a $120	03
D.	$6,301 a $8,450	04	D.	$121 a $160	04
E.	$8,451 a $10,600	05	E.	$161 a $200	05
F.	$10,601 a $12,700	06	F.	$201 a $245	06
G.	$12,701 a $14,850	07	G.	$246 a $285	07
H.	$14,851 a $17,000	08	H.	$286 a $325	08
I.	$17,001 a $19,000	09	I.	$326 a $370	09
J.	$19,001 a $21,300	10	J.	$371 a $410	10
K.	$21,301 a $25,000	11	K.	$411 a $480	11
L.	$25,001 a $30,000	12	L.	$481 a $576	12
M.	$30,001 a $40,000	13	M.	$577 a $769	13
N.	$40,001 a $50,000	14	N.	$770 a $961	14
O.	$50,001 a $75,000	15	O.	$962 a $1,441	15
P.	$75,001 ó Más	16	P.	$1,442 ó Más	16

BOX G

ALL PEOPLE ARE RELATED TO S (Q42 is 1 less than Q41)	1	(Q48)
NON-FAMILY MEMBERS IN HOUSEHOLD	2	(Q47)

47.

SHOW CARDS 3 AND 4

Esta pregunta es sobre el Ingreso Total Combinado del Hogar. Por ingreso del hogar nos referimos (el ingreso suyo y el de todas las personas que viven en su casa, tanto los que tienen una relación de parentesco con usted por nacimiento o matrimonio, como aquellos que no tienen relación de parentesco con usted por nacimiento o matrimonio/al ingreso suyo). (SHOW CARD 3). Incluya el ingreso del trabajo antes de cualquier deducción, propinas, bonos, pagos por sobretiempo, comisiones, ingreso neto después de gastos por trabajo por cuenta propia, de Seguro Social, Seguro de Ingreso Suplemental, asistencia pública, intereses, dividendos, pensión alimenticia, mantenimiento de hijos o cualquier otra fuente tal como pagos de beneficios de veteranos o pagos por desempleo. Usando la Tarjeta 4, dígame la letra que representa mejor el Ingreso Total Combinado del Hogar para los 12 meses antes de dar a luz. (IF S LIVED IN MORE THAN ONE HOUSEHOLD, PROBE: Hábleme sobre el hogar en donde usted vivió más tiempo durante los 12 meses antes de dar a luz.)

Si usted piensa en el ingreso como la cantidad POR AÑO, fíjese en esta columna.

Ingreso Anual

A.	No tuvo ingreso	01
B.	Menos de $5,000	02
C.	$5,000 a $6,300	03
D.	$6,301 a $8,450	04
E.	$8,451 a $10,600	05
F.	$10,601 a $12,700	06
G.	$12,701 a $14,850	07
H.	$14,851 a $17,000	08
I.	$17,001 a $19,000	09
J.	$19,001 a $21,300	10
K.	$21,301 a $25,000	11
L.	$25,001 a $30,000	12
M.	$30,001 a $40,000	13
N.	$40,001 a $50,000	14
O.	$50,001 a $75,000	15
P.	$75,001 ó Más	16

Si usted piensa en el ingreso como la cantidad POR SEMANA, fíjese en esta columna.

Ingreso Semanal

A.	No tuvo ingreso	01
B.	$1 a $96	02
C.	$97 a $120	03
D.	$121 a $160	04
E.	$161 a $200	05
F.	$201 a $245	06
G.	$246 a $285	07
H.	$286 a $325	08
I.	$326 a $370	09
J.	$371 a $410	10
K.	$411 a $480	11
L.	$481 a $576	12
M.	$577 a $769	13
N.	$770 a $961	14
O.	$962 a $1,441	15
P.	$1,442 ó Más	16

48. ¿Tiene usted una tarjeta de Medicaid?

YES	1	(Q49)
NO	2	(Q50)
PENDING	3	(Q50)

49. ¿Cuándo la recibió usted?

|___|___|-|___|___|-|___|___|
MO DY YR

50. **SHOW CARD 5**

Por favor, mire esta tarjeta y dígame ¿Cuáles de las fuentes siguientes utilizará para pagar su parto y estadía en el hospital? (READ CATEGORIES TO S. PROBE: ¿Cuál de éstas es la fuente principal?)

		YES	NO	DK	MAIN SOURCE
a.	Su propio ingreso o el ingreso propio de su esposo/compañero?	1	2	8	1
b.	Padres, otros familiares, amigo o familia del amigo?	1	2	8	2
c.	Seguro, incluyendo una Organización de Mantenimiento de la Salud/HMO a la que usted pertenece o a la que alguien paga por usted?	1	2	8	3
d.	Medicaid?	1	2	8	4
e.	Asistencia del gobierno diferente a Medicaid, que es asistencia del estado o local?	1	2	8	5
f.	Otra fuente? (ESPECIFIQUE)________________________	1	2	8	6

BOX H

S RECEIVED PRENATAL CARE (Q7 = 1)	1	(Q51)
S DID NOT RECEIVE PRENATAL CARE (Q7 = 2)	2	(BOX I)

51. **SHOW CARD 5**

¿Cómo fue pagada la atención prenatal que usted recibió? (READ CATEGORIES TO S. PROBE: ¿Cuál de éstas es la fuente principal?)

		YES	NO	DK	MAIN SOURCE
a.	Su propio ingreso o el ingreso propio de su esposo/compañero?	1	2	8	1
b.	Padres, otros familiares, amigo o familia del amigo?	1	2	8	2
c.	Seguro, incluyendo una Organización de Mantenimiento de la Salud/HMO a la que usted pertenece o a la que alguien paga por usted?	1	2	8	3
d.	Medicaid?	1	2	8	4
e.	Asistencia del gobierno diferente a Medicaid, que es asistencia del estado o local?	1	2	8	5
f.	Otra fuente? (ESPECIFIQUE)________________________	1	2	8	6

BOX I

TAKE OUT SAQ AND ATTACH WESID LABEL. REFER TO CALENDAR AND GIVE SAQ TO S. READ: Queremos que usted complete la sección siguiente de la entrevista por sí sola. Sin embargo, antes de comenzar a completar el cuestionario, quisiera que se fijara en este calendario. En el cuestionario se le pedirá que se recuerde de cuatro períodos de tiempo diferentes en el último año. Le será más fácil colocarse en estos períodos de tiempo si puede recordar algo que sucedió en ese tiempo. Piense en el ultimo año, es decir, a partir del (DATE LAST YEAR), y trate de recordar los acontecimientos especiales que le sucedieron a usted durante ese período de tiempo. Esto puede incluir el cumpleaños suyo, el cumpleaños de un amigo o pariente, las fechas en que usted estaba de vacaciones, la fecha en que comenzó un nuevo trabajo, una mudanza, un accidente o enfermedad, y otros acontecimientos memorables. También escriba las fechas de acontecimientos relacionados con su embarazo, como cuando sintó un movimiento del bebé. Ahora marque con un círculo las fechas que usted recuerda en el calendario y escriba lo que sucedió en la fecha correspondiente en una línea en el centro de la página. Marque una línea para conectar la fecha con el acontecimiento.

Este calendario es sólo para ayudarla a recordar el último año. No lo estaré recogiendo al final de la entrevista. Nadie lo verá excepto usted, así es que no se preocupe de cómo luce ni de lo que dice. Mientras usted está marcando el calendario, tengo que calcular algunas fechas para el cuestionario. Cuando yo termine, le daré cinco fechas adicionales para marcar con círculo en su calendario.

BOX J

1. If the Pregnancy Dates have been previously calculated and recorded on the CRF, transfer the information to the box at the bottom of the Worksheet.

   OR

   If the Pregnancy Dates have NOT been calculated, copy the appropriate dates from Page 1 of the IAQ and follow the Pregnancy Wheel Steps on the Worksheet. Record the calculated dates in the box at the bottom of the Worksheet.

2. Read each date to the S.
3. Have S circle and label the dates on her calender.
4. Read the introduction at the top of the Interviewer's Version of the SAQ.
5. While S is completing the SAQ, Scan Edit the IAQ and attach labels. Retrieve missing data before leaving S.

END TIME

|__|__| : |__|__| am
pm

SAQ START

|__|__| : |__|__| am
pm

SAQ END

|__|__| : |__|__| am
pm

INTERVIEW CONDUCTED IN (CIRCLE ONE)

English 1
Spanish 2

INTERVIEWER REMARKS

R-1. Is the quality of the information in each section generally reliable or unsatisfactory?

	GENERALLY RELIABLE	UNSATIS-FACTORY	UNABLE TO DETERMINE
OBSTETRIC HISTORY	1	2	8
DEMOGRAPHICS	1	2	8
EXPOSURES	1	2	8

R-2. The overall quality of the interview is:

GENERALLY RELIABLE	1	(R-4)
UNSATISFACTORY	2	(R-3)

R-3. What are the reasons for the unsatisfactory quality? (CIRCLE ALL THAT APPLY)

	Y	N
DEPRESSED OR UPSET	1	2
DID NOT UNDERSTAND/SPEAK LANGUAGE WELL	1	2
BORED OR UNINTERESTED	1	2
R EMOTIONALLY UNSTABLE	1	2
OTHER (SPECIFY)	1	2

____

____

R-4. Did the subject have any objections to answering the drug exposure questions?

YES	1
NO	2

SPECIFY EACH QUESTION # ______________________________

R-5. Was the drug exposure section read to the subject because of literacy or language problems?

YES	1
NO	2

R-6. Have you any reservations about the reliability of the information collected?

YES	1
NO	2

WORKSHEET

(COPY FROM PAGE 1 IF NEEDED TO SET PREGNANCY WHEEL)

Q1	Doctor's due date	|__|__| |__|__| |__|__| MO DA YR
	1a. early late	
	1b. |__|__| weeks	
Q5	Last Menstrual Period	|__|__| - |__|__| - |__|__| MO DA YR
Q2	Mother's estimate due date	|__|__| - |__|__| - |__|__| MO DA YR
Q3	Date of Conception	|__|__| - |__|__| - |__|__| MO DA YR
Q4	Weeks pregnant	|__|__|

HOW TO SET PREGNANCY WHEEL - Start with STEP 1 and proceed until you have a date to set the wheel. When you do, skip the remaining steps and fill in box below.

STEP 1: CHECK CRF	• IF EDC IS RECORDED ON CRF, SET THE ARROW ON YOUR PREGNANCY WHEEL FOR "APPROXIMATE DATE OF DELIVERY" TO THAT DATE.
STEP 2: CHECK CRF	• IF BOTH DATE OF DELIVERY AND # WEEKS GESTATION ARE RECORDED, SET THE # WEEKS GESTATION ON INNER WHEEL TO THE DATE OF DELIVERY ON OUTER WHEEL.
STEP 3: CHECK Q1	• IF DATE IS RECORDED IN Q1, SET THE ARROW ON THE PREGNANCY WHEEL FOR "APPROXIMATE DATE OF DELIVERY" TO THAT DATE.
STEP 4: CHECK Q1a AND 1b AND DATE OF DELIVERY	• IF Q1a IS EARLY, SUBTRACT THE NUMBER OF WEEKS EARLY IN 1b FROM 40 WEEKS. SET THAT NUMBER OF WEEKS ON INNER WHEEL TO DATE OF DELIVERY ON OUTER WHEEL. • IF Q1a IS LATE, ADD THE NUMBER OF WEEKS LATE IN 1b TO 40 WEEKS. SET THAT NUMBER OF WEEKS ON INNER WHEEL TO DATE OF DELIVERY ON OUTER WHEEL.
STEP 5: CHECK Q5	• IF A DATE IS RECORDED FOR LMP, SET THE "FIRST DAY OF LAST MENSTRUAL PERIOD" ARROW ON PREGNANCY WHEEL TO THAT DATE.
STEP 6: CHECK Q2	• IF A DATE IS RECORDED, SET THE "APPROXIMATE DATE OF DELIVERY" ARROW ON PREGNANCY WHEEL TO THAT DATE.
STEP 7: CHECK Q3	• IF A DATE IS RECORDED, SET "PROBABLE DAY OF CONCEPTION" LINE TO THAT DATE.
STEP 8: CHECK Q4 AND DELIVERY DATE	• SET NUMBER OF WEEKS IN Q4 ON INNER WHEEL TO DELIVERY DATE ON OUTER WHEEL.

DATES AND INFORMATION FROM PREGNANCY WHEEL AND CASE RECORD FOLDER

(Copy dates from CRF or calculate from worksheet.
Fill in Dates on S's Booklet and Calendar)

		MO DA YR
FROM PREGNANCY WHEEL		
DATE 1 = LAST MENSTRUAL PERIOD MINUS 3 MONTHS		|__|__| - |__|__| - |__|__|
DATE 2 = FIRST DAY OF LAST MENSTRUAL PERIOD		|__|__| - |__|__| - |__|__|
DATE 3 = WEEK 13		|__|__| - |__|__| - |__|__|
DATE 4 = WEEK 26		|__|__| - |__|__| - |__|__|
DATE 5 = DELIVERY DATE		|__|__| - |__|__| - |__|__|
FROM CRF		
BIRTH WEIGHT	|_|_| lbs |_|_| oz	|_|_|_|_| gms
EDC		|__|__| - |__|__| - |__|__|
# WEEKS GESTATION		|__|__|

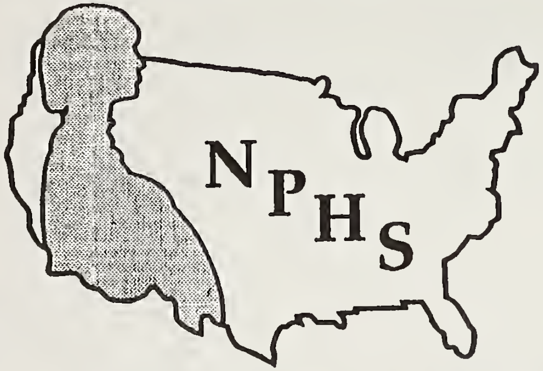
CONTINUATION SHEET

(READ QUESTIONS 27, 28, AND 29 FOR EACH LIVE BIRTH BEFORE GOING ON TO THE NEXT LIVE BIRTH.)

27. ¿Cuánto pesó su (primer/segundo/tercer/etc.) hijo nacido vivo al nacer?	28. ¿Cuándo nació ese bebé?	29. ¿Fue el parto de ese bebé más de dos semanas antes de la fecha estimada por el médico?
7. |___|___| - |___|___| LB OZ	|___|___| - |___|___| - |___|___| MO DY YR	YES .... 1 NO................ 2 DK................ 8
8. |___|___| - |___|___| LB OZ	|___|___| - |___|___| - |___|___| MO DY YR	YES .... 1 NO................ 2 DK................ 8
9. |___|___| - |___|___| LB OZ	|___|___| - |___|___| - |___|___| MO DY YR	YES .... 1 NO................ 2 DK................ 8
10. |___|___| - |___|___| LB OZ	|___|___| - |___|___| - |___|___| MO DY YR	YES .... 1 NO................ 2 DK................ 8
11. |___|___| - |___|___| LB OZ	|___|___| - |___|___| - |___|___| MO DY YR	YES .... 1 NO................ 2 DK................ 8
12. |___|___| - |___|___| LB OZ	|___|___| - |___|___| - |___|___| MO DY YR	YES .... 1 NO................ 2 DK................ 8
13. |___|___| - |___|___| LB OZ	|___|___| - |___|___| - |___|___| MO DY YR	YES .... 1 NO................ 2 DK................ 8
14. |___|___| - |___|___| LB OZ	|___|___| - |___|___| - |___|___| MO DY YR	YES .... 1 NO................ 2 DK................ 8

ID#:

OMB: 0930-0149
Fecha de Expiración: 05/31/93
Interviewer ☐☐☐



ENCUESTA NACIONAL DE EMBARAZO Y SALUD

Cuestionario para Contestar por Sí Misma

La carga de reportaje público para esta recolección de información ha sido estimada en un promedio de 60 minutos por entrevista, incluyendo el tiempo requerido para revisar las instrucciones, buscar las fuentes de datos existentes, recoger y mantener la información necesaria y completar y revisar la recolección de información. Envíe comentarios en relación con el estimado de esta carga o cualquier otro aspecto de esta recolección de información, incluyendo sugerencias para reducir la carga, a: PHS Reports Clearance Officer; ATTN: PRA; Hubert H. Humphrey Bldg., Rm 721-B; 200 Independence Ave., S.W.; Washington, DC 20201, y al Office of Management and Budget; Paperwork Reduction Project (0930-0149); Washington, DC 20503.

NIH 2722-2 [10/92]

Estas primeras preguntas se refieren al período del ____________ al ____________. Fíjese en su calendario; úselo para ayudarla a recordar.
FECHA 1 FECHA 2

EL EJEMPLO 1 muestra cómo una persona que no fuma contestaría las preguntas.

a. ¿fumó usted cigarrillos?

SI........................ 1
NO........................ [✓ 2]

b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana fumó usted?

Todos los días 1
3 a 6 días por semana........ 2
1 ó 2 días por semana........ 3
Menos de un día por semana 4
No fumé.............................. [✓ 5]

c. Durante ese tiempo, en los días en que fumó, ¿aproximadamente cuántos cigarrillos fumó normalmente?

|__|__|
# CIGARRILLOS
(1 paquete = 20 cigarrillos)

☑ *No fumé*

d. Durante ese tiempo, ¿cuál es la mayor cantidad de cigarrillos que fumó usted en un día?

|__|__|
# CIGARRILLOS
(1 paquete = 20 cigarrillos)

☑ *No fumé*

EL EJEMPLO 2 muestra cómo una persona que fuma contestaría la pregunta.

a. ¿fumó usted cigarrillos?

SI........................ [✓ 1]
NO........................ 2

b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana fumó usted?

Todos los días .... [✓ 1]
3 a 6 días por semana........ 2
1 ó 2 días por semana........ 3
Menos de un día por semana 4
No fumé.............................. 5

c. Durante ese tiempo, en los días en que fumó, ¿aproximadamente cuántos cigarrillos fumó normalmente?

|0|9|
# CIGARRILLOS
(1 paquete = 20 cigarrillos)

☐ *Did not use*

d. Durante ese tiempo, ¿cuál es la mayor cantidad de cigarrillos que fumó usted en un día?

|3|0|
# CIGARRILLOS
(1 paquete = 20 cigarrillos)

☐ *Did not use*

Ahora comencemos con la primera pregunta.

Del ____________________ al ____________________
FECHA 1 FECHA 2

1a ¿fumó usted cigarrillos?

SI.................................... 1
NO 2

1b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana fumó usted normalmente?

Todos los días 1
3 a 6 días por semana............................. 2
1 ó 2 días por semana.............................. 3
Menos de un día por semana................ 4
No fumé 5

1c. Durante ese tiempo, en los días en que fumó, ¿aproximadamente cuántos cigarrillos fumó normalmente en un día?

|__|__|
CIGARRILLOS
(1 paquete = 20 cigarrillos)

☐ No fumé

1d. Durante ese tiempo, ¿cuál es la mayor cantidad de cigarrillos que fumó usted en un día?

|__|__|
CIGARRILLOS
(1 paquete = 20 cigarrillos)

☐ No fumé

Recuerde que las preguntas siguen a lo ancho de la página.

Del ________________ al ________________ . . .
FECHA 1 FECHA 2

2a. ¿tomó usted alguna bebida alcohólica, tal como cerveza, vino o licor?

Sí 1
NO 2

2b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana tomó usted bebidas alcohólicas normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No tomé 5

2c. Durante ese tiempo, en los días en que tomó, ¿aproximadamente cuántos tragos de bebida alcohólica tomó normalmente en un día?

|__|__|
TRAGOS

☐ No tomé

2d. Durante ese tiempo, ¿cuál es la mayor cantidad que tomó usted en un día?

|__|__|
TRAGOS

☐ No tomé

3a. ¿usó usted marihuana?

Sí 1
NO 2

3b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana usó usted marihuana normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé marihuana 5

3c. Durante ese tiempo, en los días en que usó marihuana, ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé

3d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted marihuana en un día?

|__|__|
VECES POR DIA

☐ No usé

4a. ¿usó usted "crack" (cocaína en rocas)?

Sí 1
NO 2

4b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana usó usted "crack" normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé crack 5

4c. Durante ese tiempo, en los días en que usó "crack", ¿aproximadamente cuántas veces por día lo usó normalmente?

|__|__|
VECES POR DIA

☐ No usé crack

4d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted "crack" en un día

|__|__|
VECES POR DIA

☐ No usé crack

5a. ¿usó usted cocaína que no es "crack"?

Sí 1
NO 2

5b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana usó usted cocaína que no es "crack" normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé cocaína 5

5c. Durante ese tiempo, en los días en que usó cocaína que no es "crack", ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé cocaína

5d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted cocaína que no es "crack" en un día?

|__|__|
VECES POR DIA

☐ No usé cocaína

Del ________________ el ________________
FECHA 1 FECHA 2

6a. ¿usó usted heroína?

SI 1
NO 2

6b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana usó usted heroína normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé heroína 5

6c. Durante ese tiempo, en los días en que usó heroína, ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé heroína

6d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted heroína en un día?

|__|__|
VECES POR DIA

☐ No usé heroína

7a. ¿usó usted metedona?

SI 1
NO 2

7b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana usó usted metadona normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé metadona 5

7c. Durante ese tiempo, en los días en que usó metadona, ¿eproximademente cuántes veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé metadona

7d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted metadona en un día?

|__|__|
VECES POR DIA

☐ No usé metadona

8a. ¿usó usted metanfetamina ("acelere", "crenk", "cristal", "meta")?

SI 1
NO 2

8b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana usó usted metanfetamina ("acelere", "crank", "cristal", "meta") normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé metanfetamina 5

8c. Durante ese tiempo, en los días en que usó metanfetemine, ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé metenfetamina

8d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted metanfetamina en un día?

|__|__|
VECES POR DIA

☐ No usé metanfetamina

POR FAVOR, DIGALE AL ENTREVISTADOR QUE USTED COMPLETO LA PREGUNTA 8

Fíjese en su calendario. Estamos preguntando sobre el tiempo del ________________ al ________________. Acuérdese de leer a lo ancho de la página y contestar todas las preguntas.
FECHA 2 FECHA 3

Durante ese tiempo:

9a. ¿fumó usted cigarrillos?

SI 1
NO 2

9b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana fumó usted normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No fumé 5

9c. Durante ese tiempo, en los días en que fumó, ¿aproximadamente cuántos cigarrillos fumó normalmente en un día?

|__|__|
CIGARRILLOS
(1 paquete = 20 cigarrillos)

☐ No fumé

9d. Durante ese tiempo, ¿cuál es la mayor cantidad de cigarrillos que fumó usted en un día?

|__|__|
CIGARRILLOS
(1 paquete = 20 cigarrillos)

☐ No fumé

10a. ¿tomó usted alguna bebida alcohólica, tal como cerveza, vino o licor?

SI 1
NO 2

10b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana tomó usted bebidas alcohólicas normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No tomé 5

10c. Durante ese tiempo, en los días en que tomó, ¿aproximadamente cuántos tragos de bebida alcohólica tomó normalmente en un día?

|__|__|
TRAGOS

☐ No tomé

10d. Durante ese tiempo, ¿cuál es la mayor cantidad que tomó usted en un día?

|__|__|
TRAGOS

☐ No tomé

11a. ¿usó usted marihuana?

SI 1
NO 2

11b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana usó usted marihuana normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé marihuana 5

11c. Durante ese tiempo, en los días en que usó marihuana, ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé

11d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted marihuana en un día?

|__|__|
VECES POR DIA

☐ No usé marihuana

12a. ¿usó usted "crack" (cocaína en rocas)?

SI 1
NO 2

12b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana usó usted "crack" normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé crack 5

12c. Durante ese tiempo, en los días en que usó "crack", ¿aproximadamente cuántas veces por día lo usó normalmente?

|__|__|
VECES POR DIA

☐ No usé crack

12d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted "crack" en un día?

|__|__|
VECES POR DIA

☐ No usé crack

13a. ¿usó usted cocaína que no es "crack"?

SI 1
NO 2

13b. Durante esos 3 meses, ¿aprox. cuántos días por semana usó usted cocaína que no es "crack" normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé cocaína 5

13c. Durante ese tiempo, en los días en que usó cocaína que no es "crack," ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé cocaína

13d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted cocaína que no es "crack" en un día?

|__|__|
VECES POR DIA

☐ No usé cocaína

14a. ¿usó usted heroína?

SI 1
NO 2

14b. Durante esos 3 meses, ¿aprox. cuántos días por semana usó usted heroína normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé heroína 5

14c. Durante ese tiempo, en los días en que usó heroína, ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé heroína

14d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted heroína en un día?

|__|__|
VECES POR DIA

☐ No usé heroína

15a. ¿usó usted metadona?

SI 1
NO 2

15b. Durante esos 3 meses, ¿aprox. cuántos días por semana usó usted metadona normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé metadona 5

15c. Durante ese tiempo, en los días en que usó metadona, ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé metadona

15d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted metadona en un día?

|__|__|
VECES POR DIA

☐ No usé metadona

16a. ¿usó usted metanfetamina ("acelere", "crank", "cristal", "meta")?

SI 1
NO 2

16b. Durante esos 3 meses, ¿aprox. cuántos días por semana usó usted metanfetamina ("acelere", "crank", "cristal", "meta") normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé metanfetamina 5

16c. Durante ese tiempo, en los días en que usó metanfetamina, ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé metanfetamina

16d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted metanfetamina en un día?

|__|__|
VECES POR DIA

☐ No usé metanfetamina

POR FAVOR, DIGALE AL ENTREVISTADOR QUE USTED COMPLETO LA PREGUNTA 16

Fíjese nuevamente en su calendario; úselo para ayudarla a recordar. Estamos preguntando sobre el tiempo del ________________ al ________________.
FECHA 3 FECHA 4

Durante ese tiempo:

17a. ¿fumó usted cigarrillos? SI .... 1 NO 2	17b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana fumó usted normalmente? Todos los días .... 1 3 a 6 días por semana .... 2 1 ó 2 días por semana .... 3 Menos de un día por semana .... 4 No fumé 5	17c. Durante ese tiempo, en los días en que fumó, ¿aproximadamente cuántos cigarrillos fumó normalmente en un día? |__|__| # CIGARRILLOS (1 paquete = 20 cigarrillos) ☐ No fumé	17d. Durante ese tiempo, ¿cuál es la mayor cantidad de cigarrillos que fumó usted en un día? |__|__| # CIGARRILLOS (1 paquete = 20 cigarrillos) ☐ No fumé
18a. ¿tomó usted alguna bebida alcohólica, tal como cerveza, vino o licor? SI .... 1 NO 2	18b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana tomó usted bebidas alcohólicas normalmente? Todos los días .... 1 3 a 6 días por semana .... 2 1 ó 2 días por semana .... 3 Menos de un día por semana .... 4 No tomé 5	18c. Durante ese tiempo, en los días en que tomó, ¿aproximadamente cuántos tragos de bebida alcohólica tomó normalmente en un día? |__|__| # TRAGOS ☐ No tomé	18d. Durante ese tiempo, ¿cuál es la mayor cantidad que tomó usted en un día? |__|__| # TRAGOS ☐ No tomé
19a. ¿usó usted marihuana? SI .... 1 NO 2	19b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana usó usted marihuana normalmente? Todos los días .... 1 3 a 6 días por semana .... 2 1 ó 2 días por semana .... 3 Menos de un día por semana .... 4 No usé marihuana 5	19c. Durante ese tiempo, en los días en que usó marihuana, ¿aproximadamente cuántas veces por día la fumó normalmente? |__|__| # VECES POR DIA ☐ No usé	19d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted marihuana en un día? |__|__| # VECES POR DIA ☐ No usé marihuana
20a. ¿usó usted "crack" (cocaína en rocas)? SI .... 1 NO 2	20b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana usó usted "crack" normalmente? Todos los días .... 1 3 a 6 días por semana .... 2 1 ó 2 días por semana .... 3 Menos de un día por semana .... 4 No usé crack 5	20c. Durante ese tiempo, en los días en que usó "crack", ¿aproximadamente cuántas veces por día lo usó normalmente? |__|__| # VECES POR DIA ☐ No usé crack	20d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted "crack" en un día? |__|__| # VECES POR DIA ☐ No usé crack

21a. ¿usó usted cocaína que no es "crack"?

SI 1
NO 2

21b. Durante esos 3 meses, ¿aprox. cuántos días por semana usó usted cocaína que no es "crack" normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé cocaína 5

21c. Durante ese tiempo, en los días en que usó cocaína que no es "crack," ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé cocaína

21d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted cocaína que no es "crack" en un día?

|__|__|
VECES POR DIA

☐ No usé cocaína

22a. ¿usó usted heroína?

SI 1
NO 2

22b. Durante esos 3 meses, ¿aprox. cuántos días por semana usó usted heroína normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé heroína 5

22c. Durante ese tiempo, en los días en que usó heroína, ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé heroína

22d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted heroína en un día?

|__|__|
VECES POR DIA

☐ No usé heroína

23a. ¿usó usted metadona?

SI 1
NO 2

23b. Durante esos 3 meses, ¿aprox. cuántos días por semana usó usted metadona normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé metadona 5

23c. Durante ese tiempo, en los días en que usó metadona, ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé metadona

23d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted metadona en un día?

|__|__|
VECES POR DIA

☐ No usé metadona

24a. ¿usó usted metanfetamina ("acelere", "crank", "cristal", "meta")?

SI 1
NO 2

24b. Durante esos 3 meses, ¿aprox. cuántos días por semana usó usted metanfetamina ("acelere", "crank", "cristal", "meta") normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé metanfetamina 5

24c. Durante ese tiempo, en los días en que usó metanfetamina, ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé metanfetamina

24d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted metanfetamina en un día?

|__|__|
VECES POR DIA

☐ No usé metanfetamina

POR FAVOR, DIGALE AL ENTREVISTADOR QUE USTED COMPLETO LA PREGUNTA 24

Fíjese nuevamente en su calendario. Estamos preguntando sobre el tiempo del ______________ al ______________. Acuérdese de leer a lo ancho de la página y contestar todas las preguntas.
FECHA 4 — FECHA DEL PARTO

Durante ese tiempo: 25a. ¿fumó usted cigarrillos? SI .... 1 NO 2	25b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana fumó usted normalmente? Todos los días .... 1 3 a 6 días por semana .... 2 1 ó 2 días por semana .... 3 Menos de un día por semana .... 4 No fumé 5	25c. Durante ese tiempo, en los días en que fumó, ¿aproximadamente cuántos cigarrillos fumó normalmente en un día? |__|__| # CIGARRILLOS (1 paquete = 20 cigarrillos) ☐ No fumé	25d. Durante ese tiempo, ¿cuál es la mayor cantidad de cigarrillos que fumó usted en un día? |__|__| # CIGARRILLOS (1 paquete = 20 cigarrillos) ☐ No fumé
26a. ¿tomó usted alguna bebida alcohólica, tal como cerveza, vino o licor? SI .... 1 NO 2	26b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana tomó usted bebidas alcohólicas normalmente? Todos los días .... 1 3 a 6 días por semana .... 2 1 ó 2 días por semana .... 3 Menos de un día por semana .... 4 No tomé 5	26c. Durante ese tiempo, en los días en que tomó, ¿aproximadamente cuántos tragos de bebida alcohólica tomó normalmente en un día? |__|__| # TRAGOS ☐ No tomé	26d. Durante ese tiempo, ¿cuál es la mayor cantidad que tomó usted en un día? |__|__| # TRAGOS ☐ No tomé
27a. ¿usó usted marihuana? SI .... 1 NO 2	27b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana usó usted marihuana normalmente? Todos los días .... 1 3 a 6 días por semana .... 2 1 ó 2 días por semana .... 3 Menos de un día por semana .... 4 No usé marihuana 5	27c. Durante ese tiempo, en los días en que usó marihuana, ¿aproximadamente cuántas veces por día la fumó normalmente? |__|__| # VECES POR DIA ☐ No usé marihuana	27d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted marihuana en un día? |__|__| # VECES POR DIA ☐ No usé marihuana
28a. ¿usó usted "crack" (cocaína en rocas)? SI .... 1 NO 2	28b. Durante esos 3 meses, ¿aproximadamente cuántos días por semana usó usted "crack" normalmente? Todos los días .... 1 3 a 6 días por semana .... 2 1 ó 2 días por semana .... 3 Menos de un día por semana .... 4 No usé crack 5	28c. Durante ese tiempo, en los días en que usó "crack", ¿aproximadamente cuántas veces por día lo usó normalmente? |__|__| # VECES POR DIA ☐ No usé crack	28d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted "crack" en un día? |__|__| # VECES POR DIA ☐ No usé crack

29a. ¿usó usted cocaína que no es "crack"?

SI 1
NO 2

29b. Durante esos 3 meses, ¿aprox. cuántos días por semana usó usted cocaína que no es "crack" normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé cocaína 5

29c. Durante ese tiempo, en los días en que usó cocaína que no es "crack," ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé cocaína

29d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted cocaína que no es "crack" en un día?

|__|__|
VECES POR DIA

☐ No usé cocaína

30a. ¿usó usted heroína?

SI 1
NO 2

30b. Durante esos 3 meses, ¿aprox. cuántos días por semana usó usted heroína normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé heroína 5

30c. Durante ese tiempo, en los días en que usó heroína, ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé heroína

30d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted heroína en un día?

|__|__|
VECES POR DIA

☐ No usé heroína

31a. ¿usó usted metadona?

SI 1
NO 2

31b. Durante esos 3 meses, ¿aprox. cuántos días por semana usó usted metadona normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé metadona 5

31c. Durante ese tiempo, en los días en que usó metadona, ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé metadona

31d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted metadona en un día?

|__|__|
VECES POR DIA

☐ No usé metadona

32a. ¿usó usted metanfetamina ("acelere", "crank", "cristal", "meta")?

SI 1
NO 2

32b. Durante esos 3 meses, ¿aprox. cuántos días por semana usó usted metanfetamina ("acelere", "crank", "cristal", "meta") normalmente?

Todos los días 1
3 a 6 días por semana 2
1 ó 2 días por semana 3
Menos de un día por semana 4
No usé metanfetamina 5

32c. Durante ese tiempo, en los días en que usó metanfetamina, ¿aproximadamente cuántas veces por día la usó normalmente?

|__|__|
VECES POR DIA

☐ No usé metanfetamina

32d. Durante ese tiempo, ¿cuál es el mayor número de veces que usó usted metanfetamina en un día?

|__|__|
VECES POR DIA

☐ No usé metanfetamina

POR FAVOR, DIGALE AL ENTREVISTADOR QUE USTED COMPLETO LA PREGUNTA 32

DROGAS O MEDICAMENTOS DE PRESCRIPCION

Ahora vamos a preguntar sobre drogas o medicamentos de prescripción. Habrán preguntas separadas para sedativos o calmantes, tranquilizantes, estimulantes y analgésicos. Estamos interesados en el tiempo del ________ al ____________. Mire su calendario y complete la Fecha 2 y la Fecha del Parto en la línea arriba de la pregunta 33. Por favor, fíjese en las tarjetas A, B, C, D. Además, fíjese en la Tarjeta 6 en las tarjetas de muestra.
FECHA 2 FECHA DEL PARTO

Lea EL EJEMPLO A de una mujer que tomó sedativos o calmantes, tanto por orden del médico como no por orden del médico.

EJEMPLO A:

33a. ¿Tomó usted sedativos o calmantes (píldoras para dormir, depresores o barbitúricos) por orden del médico?

USE TARJETA A

SI .... [✓ 1]
NO................ 2

33b. ¿Tomó usted sedativos o calmantes (píldoras para dormir, depresores o barbitúricos) por razones no médicas y **no por orden del médico?**

USE TARJETA 6

SI................ [✓ 1]
NO................ 2

33c. Durante este tiempo, más o menos ¿cuántos días por semana tomó usted sedativos o calmantes **no por orden del médico?**

Todos los días 1
3 a 6 días por semana........... [✓ 2]
1 ó 2 días por semana 3
Menos de un día por semana.4
No usé sedativos o calmantes 5

33d. Nuevamente, estamos hablando de tomar medicamentos no por **orden del médico**. Durante este tiempo, en los días en que usted tomó sedativos o calmantes, más o menos ¿cuántos tomó normalmente?

|0|2|
PILDORAS POR DIA
☐ No usé sedativos o calmantes

33e. Durante este tiempo, ¿cuál fue el mayor número de sedativos o calmantes que usted tomó en un día no por orden del **médico?**

|0|9|
DE PILDORAS

☐ No tomé píldoras

Ahora lea EL EJEMPLO B de una mujer que tomó sedativos o calmantes solo por orden del médico.

EJEMPLO B:

33a. ¿Tomó usted sedativos o calmantes (píldoras para dormir, depresores o barbitúricos) por orden del médico?

USE TARJETA A

SI .... [✓ 1]
NO................ 2

33b. ¿Tomó usted sedativos o calmantes (píldoras para dormir, depresores o barbitúricos) por razones no médicas y no por orden del médico?

USE TARJETA 6

SI........ 1
NO................ [✓ 2]

33c. Durante este tiempo, más o menos ¿cuántos días por semana tomó usted sedativos o calmantes **no por orden del médico?**

Todos los días 1
3 a 6 días por semana............2
1 ó 2 días por semana 3
Menos de un día por semana.4
No usé sedativos o calmantes [✓ 5]

33d. Nuevamente, estamos hablando de tomar medicamentos no por **orden del médico**. Durante este tiempo, en los días en que usted tomó sedativos o calmantes, más o menos ¿cuántos tomó normalmente?

|__|__|
PILDORAS POR DIA
☑ No usé sedativos o calmantes

33e. Durante este tiempo, ¿cuál fue el mayor número de sedativos o calmantes que usted tomó en un día no por orden del médico?

|__|__|
DE PILDORAS

☑ No tomé píldoras

Ahora comience usted con la pregunta 33a. Dígame cuando haya terminado esta sección, la pregunta 36. Recuerde que el período de tiempo es desde la ____________ hasta la ____________.
FECHA 2 FECHA DEL PARTO

33a. ¿Tomó usted sedativos o calmantes (píldoras para dormir, depresores o barbitúricos) por orden del médico?

USE TARJETA A

SI 1
NO................ 2

33b. ¿Tomó usted sedativos o calmantes (píldoras para dormir, depresores o barbitúricos) por razones no médicas y **no por orden del médico?**

USE TARJETA 6

SI................ 1
NO................ 2

33c. Durante este tiempo, más o menos ¿cuántos días por semana tomó usted sedativos o calmantes normalmente **no por orden del médico?**

Todos los días............................1
3 a 6 días por semana 2
1 ó 2 días por semana...............3
Menos de un día por semana....4
No usé sedativos o calmantes..5

33d. Nuevamente, estamos hablando de tomar medicamentos no por orden **del médico**. Durante este tiempo, en los días en que usted tomó sedativos o calmantes, más o menos ¿cuántos tomó normalmente?

|__|__|
PILDORAS POR DIA
☐ No usé sedativos o calmantes

33e. Durante este tiempo, ¿cuál fue el mayor número de sedativos o calmantes que usted tomó en un día no por orden del médico?

|__|__|
DE PILDORAS

☐ No tomé píldoras

34a. ¿Tomó usted algún tranquilizante por orden del médico?

USE TARJETA B

SI 1
NO 2

34b. ¿Tomó usted algún tranquilizante por razones no médicas y **no por orden del médico?**

USE TARJETA 6

SI 1
NO 2

34c. Durante este tiempo, más o menos ¿cuántos días por semana tomó usted tranquilizantes normalmente **no por orden del médico?**

Todos los días 1
3 a 6 días por semana.............. 2
1 ó 2 días por semana 3
Menos de un día por semana... 4
No usé tranquilizantes 5

34d. Nuevamente, estamos hablando de tomar medicamentos **no por orden del médico.** Durante este tiempo, en los días en que usted tomó tranquilizantes por su cuenta, más o menos ¿cuántos tomó normalmente?

|__|__|
PILDORAS POR DIA

☐ No usé tranquilizantes

34e. Durante este tiempo, ¿cuál fue el mayor número de tranquilizantes que tomó usted en un día no **por orden del medico?**

|__|__|
DE PILDORAS

☐ No usé tranquilizantes

35a. ¿Tomó usted alguna anfetamina, a veces llamado "alegradoras" o "speed," o estimulantes por orden del médico?

USE TARJETA C

SI 1
NO 2

35b. ¿Tomó usted alguna anfetamina no por orden del médico?

USE TARJETA 6

SI 1
NO 2

35c. Durante este tiempo, más o menos ¿cuántos días por semana tomó usted anfetaminas normalmente **no por orden del médico?**

Todos los días 1
3 a 6 días por semana.............. 2
1 ó 2 días por semana 3
Menos de un día por semana... 4
No usé anfetaminas 5

35d. Nuevamente, estamos hablando de tomar medicamentos no por **orden del médico.** Durante este tiempo, en los días en que usted tomó anfetaminas, más o menos ¿cuántos tomó normalmente?

|__|__|
PILDORAS POR DIA

☐ No usé anfetaminas

35e. Durante este tiempo, ¿cuál fue el mayor número de anfetaminas que tomó usted en un día no por orden del médico?

|__|__|
DE PILDORAS

☐ No usé anfetaminas

36a. ¿Tomó usted algún analgésico (píldoras para el dolor) por orden del médico?

USE TARJETA D

SI 1
NO 2

36b. ¿Tomó usted algún analgésico **no por orden del médico?**

USE TARJETA 6

SI 1
NO 2

36c. Durante este tiempo, más o menos ¿cuántos días por semana tomó usted analgésicos normalmente **no por orden del médico?**

Todos los días 1
3 a 6 días por semana.............. 2
1 ó 2 días por semana 3
Menos de un día por semana... 4
No usé analgésicos.................. 5

36d. Nuevamente, estamos hablando de tomar medicamentos no por **orden del médico.** Durante este tiempo, en los días en que usted tomó analgésicos, más o menos ¿cuántos tomó normalmente?

|__|__|
PILDORAS POR DIA

☐ No usé analgésicos

36e. Durante este tiempo, ¿cuál fue el mayor número de analgésicos que tomó usted en un día **no por orden del médico?**

|__|__|
DE PILDORAS

☐ No usé analgésicos

POR FAVOR, DIGALE AL ENTREVISTADOR QUE USTED COMPLETO LA PREGUNTA 36

Una vez más, pensando en el período de tiempo entre el ____________ al ____________, por favor, conteste las preguntas 37-42. Marque el 1 con un círculo para contestar sí o el 2 para contestar no. Por favor, dígame cuando haya contestado la pregunta 42.

FECHA 2 / FECHA DEL PARTO

37. En algún momento entre el ________ y el parto, ¿ usó usted:

FECHA 2

Alucinógenos, como LSD o PCP

SI 1
NO 2

Inhalantes

SI 1
NO 2

38. En este período de tiempo, ¿vivió usted en el mismo hogar con alguna persona que fumó cigarrillos?

SI 1
NO 2

39. En este período de tiempo, ¿ha ido usted a una clínica, a un grupo de ayuda propia, a un consejero, a un médico u otro profesional para recibir ayuda para dejar de fumar?

SI 1
NO 2

40. En este período de tiempo, ¿ha recibido usted algún tratamiento por tomar alcohol - como de una clínica, un grupo de ayuda propia, un consejero, un médico u otro profesional?

SI 1
NO 2

Ahora estamos interesados en el tratamiento que usted pudo haber obtenido o que trató de obtener por el uso de otras drogas, es decir, además de cigarrillos o alcohol.

41. En este período de tiempo, ¿ha tratado usted de obtener tratamiento por el uso de otras drogas, sin contar cigarrillos o alcohol, en alguno de los lugares siguientes?

a.	Una sala de emergencia	SI 1	NO 2
b.	Un hospital, como paciente interno	SI 1	NO 2
c.	La oficina privada de un médico	SI 1	NO 2
d.	Una instalación para el tratamiento o rehabilitación del uso de drogas	SI 1	NO 2
e.	Una instalación o centro de salud mental	SI 1	NO 2
f.	Un grupo de ayuda propia	SI 1	NO 2
g.	Algún otro lugar (ESPECIFIQUE) ____________________	SI 1	NO 2

42. En este período de tiempo, ¿ha recibido usted tratamiento por el uso de otras drogas, sin contar cigarrillos o alcohol, en alguno de los lugares siguientes?

a.	Una sala de emergencia	SI 1	NO 2
b.	Un hospital, como paciente interno	SI 1	NO 2
c.	La oficina privada de un médico	SI 1	NO 2
d.	Una instalación para el tratamiento o rehabilitación del uso de drogas	SI 1	NO 2
e.	Una instalación o centro de salud mental	SI 1	NO 2
f.	Un grupo de ayuda propia	SI 1	NO 2
g.	Algún otro lugar (ESPECIFIQUE) ____________________	SI 1	NO 2

POR FAVOR DIGALE AL ENTREVISTADOR QUE USTED COMPLETO LA PREGUNTA 42

43. Ahora quiero que piense sobre los tres días antes de que la ingresaran para el parto. No incluya el día en que la ingresaron. En eso 3 días, usted . . .

a. ¿Fumó cigarrillos?
SI 1
NO 2

b. ¿Tomó bebidas alcohólicas?
SI 1
NO 2

c. ¿Fumó marihuana?
SI 1
NO 2

d. ¿Usó "crack" (cocaína en rocas)?
SI 1
NO 2

e. ¿Usó cocaína que no es "crack"?
SI 1
NO 2

f. ¿Usó heroína?
SI 1
NO 2

g. ¿Usó metadona?
SI 1
NO 2

h. ¿Usó metanfetamina?
SI 1
NO 2

i. ¿Tomó alguna anfetamina?
SI 1
NO 2

j. ¿Tomó algún tranquilizante?
SI 1
NO 2

k. ¿Tomó algún sedativo o calmante?
SI 1
NO 2

l. ¿Tomó algún analgésico?
SI 1
NO 2

44. ¿Cuál fue la vez más reciente que fumó usted un cigarrillo?

En el último año 1
Hace más de un año, pero menos de 3 años 2
Hace más de 3 años... 3
Nunca fumé.. 4
No estoy segura... 8

POR FAVOR, DIGALE AL ENTREVISTADOR QUE USTED COMPLETO LA PREGUNTA 44

Llene los espacios o marque las respuesta con un círculo en las preguntas siguientes.

45. ¿Más o menos qué edad tenía usted cuando probó marihuana o "hachís" (hashish) por primera vez?

Edad cuando probó	|__|__|
Nunca usó marihuana o hachís	00

46. ¿Cuál fue la vez más reciente que usó usted marihuana o hachís?

En el último año	1
Hace más de un año, pero menos de 3 años	2
Hace más 3 3 años	3
Nunca usé marihuana o hierba	4

47. ¿Más o menos que edad tenía usted cuando probó cocaína por primera vez?

Edad cuando probó	|__|__|
Nunca usó cocaína en ninguna forma	00

48. ¿Cuál fue la vez más reciente que usó usted cocaína?

En el último año	1
Hace más de un año, pero menos de 3 años	2
Hace más de 3 años	3
Nunca usé cocaína	4

Muchas gracias por su ayuda en este importante estudio.

LA ENTREVISTA SE HA TERMINADO. POR FAVOR, COLOQUE SU LIBRETA EN EL SOBRE Y SELLELO.

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

NATIONAL INSTITUTE ON DRUG ABUSE

Alcohol, Drug Abuse, and
Mental Health Administration
Rockville MD 20857

Office of the Director
(301) 443-6480

CONFIDENTIALITY CERTIFICATE
No. DA-91-26

issued to

EMPLOYEES OF THE WESTAT, INC.
AND OTHER PARTICIPANTS

conducting research known as

"NATIONAL PREGNANCY AND HEALTH SURVEY"

In accordance with section 303(a) of the Public Health Service Act, amended and redesignated as section 301(d) of the Public Health Service Act by the Health Omnibus Programs Extension Act of 1988, this Certificate is issued in response to the request of the Principal Investigator, Diane M. Cadell, Associate Director, Westat, Inc., 1650 Research Blvd., Rockville, Maryland 20850, to protect the privacy of research subjects by withholding their identities from all persons not connected with the research. Ms. Cadell is primarily responsible for the conduct of this research.

Under authority vested in the Secretary of Health and Human Services by section 301(d) of the Public Health Service Act (42 U.S.C. 241(d)), all persons who -

1. are employed by the Westat, Inc., and its contractors and cooperating agencies; and

2. have, in the course of that employment, access to the information which would identify individuals who are the subjects of a research project entitled "National Pregnancy and Health Survey,"

are hereby authorized to protect the privacy of the individuals who are the subjects of that research by withholding their names and other identifying characteristics from all persons not connected with the conduct of that research.

The purposes of this research project are to: (1) measure the prevalence of licit and illicit drug use during pregnancy in a nationally representative sample of women delivering live born infants in hospitals and obtain these prevalence measures for major race/ethnic groups, urban versus rural areas, and the metropolitan portions of the nine census divisions of the United States; (2) describe patterns of drug use during pregnancy, including types of drugs used, timing of use (by trimester), and frequency of use; and (3) assess the association between in utero drug exposure and two outcomes: birth weight and infant's length of stay in the hospital.

As provided in section 301(d) of the Public Health Service Act (42 U.S.C. 241(d)):

> "Persons so authorized to protect the privacy of such individuals may not be compelled in any Federal, State, or local civil, criminal, administrative, legislative, or other proceedings to identify such individuals."

This authorization is applicable to all information obtained pursuant to the research project entitled, "National Pregnancy and Health Survey," NIDA contract 271-90-5303, to identify the individuals who are the respondents in the research conducted under that research project.

This Certificate does not represent an endorsement of the research project by the Department of Health and Human Services.

The Certificate is effective upon date of the commencement of the research project and will expire at the end of March 1992. The protection afforded by this Confidentiality Certificate is permanent with respect to subjects who participate in the research during any time the Certificate is in effect.

Date: 2/4/91

Charles R. Schuster, Ph.D.
Director
National Institute on Drug Abuse

DEPARTMENT OF HEALTH & HUMAN SERVICES
Public Health Service
NATIONAL INSTITUTE ON DRUG ABUSE

Alcohol, Drug Abuse and
Mental Health Administration
Rockville MD 20857

AMENDMENT NO. 1

CONFIDENTIALITY CERTIFICATE
No. DA-91-26

Office of the Director
(301) 443-6480

EMPLOYEES OF WESTAT, INC.
AND OTHER PARTICIPANTS

conducting research known as

"NATIONAL PREGNANCY AND HEALTH SURVEY"

In accordance with the provisions of section 301(d) of the Public Health Service Act (42 U.S.C. § 241(d)) this Amendment to the original Certificate dated February 1991, is issued in response to the request of the Principal Investigator, Diane M. Cadell, Associate Director, Westat, Inc., 1650 Research Blvd., Rockville, Maryland 20850-3129, to protect the privacy of research subjects by withholding their identities from all persons not connected with the research. Ms. Cadell is primarily responsible for the conduct of this research.

Under the authority vested in the Secretary of Health and Human Services by that section, all persons who--

1. are employed by Westat, Inc. and its contractor and cooperating agencies; and

2. have, in the course of that employment, access to information which would identify individuals who are the subjects of a research project referred to as "National Pregnancy and Health Survey,"

are hereby authorized to protect the privacy of the individuals who are the subjects of that research by withholding their names and other identifying characteristics from all persons not connected with the conduct of that research.

The purpose and all other aspects of this research project remain unchanged. The purpose of the amendment is to extend the expiration date from the end of March 1992 to the end of May 1993. The Principal Investigator has requested the extension in accordance with section 301(d) of the Public Health Service Act (42 U.S.C. 241(d)).

Date: FEB 27 1992

Richard A. Millstein
Acting Director
National Institute on Drug Abuse

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
National Institute on Drug Abuse

National Institutes of Health
Bethesda, Maryland 20892

CERTIFICADO DE CONFIDENCIALIDAD

No. DA-91-26

Oficina del Director
(301)443-6480

expedido a

EMPLEADOS DE WESTAT, INC.
Y OTROS PARTICIPANTES

que están llevando a cabo un estudio
de investigación conocido como

"ENCUESTA NACIONAL DE EMBARAZO Y SALUD"

De acuerdo con lo dispuesto en la sección 303(a) de la Ley del Servicio de Salud Pública, enmendada y redesignada como sección 301(d) de la Ley del Servicio de Salud Pública por la Ley de Extensión de Programas Generales de Salud de 1988, se expide este certificado en respuesta a la solicitud del Investigador Principal, Diane M. Cadell, Directora Adjunta, Westat, Inc., 1650 Research Blvd., Rockville, Maryland 20850, con objeto de proteger la privacidad de los sujetos de estudios de investigación, no divulgando sus identidades a ninguna persona que no esté involucrada en la investigación. La Directora Adjunta Cadell es la responsable principal de este estudio de investigación.

Bajo la autoridad conferida al Secretario de Salud y Servicios Humanos por la sección 301(d) de la Ley del Servicio de Salud Pública (42 U.S.C. 241 (d)), toda persona que -

1. es empleado de Westat, Inc. y sus contratistas y agencias colaboradoras; y

2. ha tenido, en el transcurso de dicho empleo, acceso a la información que identificaría a los individuos que son sujetos de un proyecto de investigación intitulado "Encuesta Nacional de Embarazo y Salud",

queda autorizado para proteger la privacidad de los individuos que son sujetos de dicha investigación, no divulgando sus nombres y otras características de identificación a ninguna persona no involucrada en dicho estudio de investigación.

Los objetivos de este proyecto de investigación son: (1) medir la frecuencia del uso lícito e ilícito de drogas durante el embarazo en una muestra representativa a nivel nacional de mujeres que están dando a luz a hijos nacidos vivos en hospitales, así como obtener dichas medidas para grupos étnicos/raciales, áreas urbanas versus rurales, y las porciones metropolitanas de las nueve divisiones censales de los Estados Unidos; (2) describir patrones de uso de drogas durante el embarazo, incluyendo los tipos de drogas usadas, el cronometraje del uso (por trimestre) y la frecuencia del uso; y (3) evaluar la asociación entre la exposición a drogas in útero y dos resultados: peso del infante al nacer y tiempo de estadía del infante en el hospital.

De acuerdo con lo dispuesto en la sección 301(d) de la Ley del Servicio de Salud Pública (42 U.S.C. 241 (d)):

> "Las personas autorizadas para proteger la privacidad de dichos individuos no podrán ser obligadas en ningún procedimiento Federal, Estatal o local de tipo civil, criminal, administrativo, legislativo u otro, a identificar a dichos individuos".

Esta autorización es aplicable a toda la información obtenida bajo el proyecto de investigación intitulado "Encuesta Nacional de Embarazo y Salud", contrato NIDA 271-90-5303, para identificar los individuos que son entrevistados en la investigación realizada bajo el proyecto de investigación.

Este Certificado no representa un endoso del proyecto de investigación por parte del Departamento de Salud y Servicios Humanos.

Este Certificado es efectivo en la fecha de comienzo del proyecto de investigación y vencerá al final del mes de marzo de 1992. La protección ofrecida por este Certificado de Confidencialidad es permanente con respecto a los sujetos que participan en la investigación durante el tiempo que el Certificado esté en vigencia.

Fecha: 2/4/91

RL Millstein

Richard L. Millstein
Director en Funciones
Instituto Nacional de Abuso de Drogas

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
National Institute on Drug Abuse

National Institutes of Health
Bethesda, Maryland 20892

ENMIENDA No. 1

CERTIFICADO DE CONFIDENCIALIDAD

No. DA-91-26

Oficina del Director
(301)443-6480

EMPLEADOS DE WESTAT, INC.
Y OTROS PARTICIPANTES

que están llevando a cabo un estudio
de investigación conocido como

"ENCUESTA NACIONAL DE EMBARAZO Y SALUD"

De acuerdo con lo dispuesto en la sección 301(d) de la Ley del Servicio de Salud Pública (42 U.S.C. § 241 (d)) esta Enmienda al Certificado original, fechada febrero de 1991, se expide en respuesta a la solicitud del Investigador Principal, Diane M. Cadell, Directora Adjunta, Westat, Inc., 1650 Research Blvd., Rockville, Maryland 20850, con objeto de proteger la privacidad de los sujetos de estudios de investigación, no divulgando sus identidades a ninguna persona que no esté involucrada en la investigación. La Directora Adjunta Cadell es la responsable principal de este estudio de investigación.

Bajo la autoridad conferida al Secretario de Salud y Servicios Humanos por dicha sección, toda persona que -

1. es empleado de Westat, Inc. y sus contratistas y agencias colaboradoras; y

2. ha tenido, en el transcurso de dicho empleo, acceso a la información que identificaría a los individuos que son sujetos de un proyecto de investigación intitulado "Encuesta Nacional de Embarazo y Salud",

queda autorizado para proteger la privacidad de los individuos que son sujetos de dicha investigación, no divulgando sus nombres y otras características de identificación a ninguna persona no involucrada en dicho estudio de investigación.

Los objetivos y todos los demás aspectos de este proyecto de investigación permanecen sin cambio. El propósito de la enmienda es de extender la fecha de vencimiento, de fines de marzo de 1992 hasta fines de mayo de 1993. El Investigador Principal ha solicitado la extensión de acuerdo a lo dispuesto en la sección 301(d) de la Ley del Servicio de Salud Pública (42 U.S.C. 241 (d)).

Fecha: FEB 25 1992

RA Millstein

Richard A. Millstein
Director en Funciones
Instituto Nacional de Abuso de Drogas

National Pregnancy and Health Survey

Part I
Mother's Record Abstract

Field Use Only

Review 1 Complete ☐
Review 2 Complete ☐
Medical Records Requested ☐

Interviewer ID: |__|__|__|

Date Complete Review 1: |__|__|-|__|__|-|__|__|
MO DA YR

Date Complete Review 2: |__|__|-|__|__|-|__|__|
MO DA YR

Estimated time to complete: |__|__|
MIN

Westat ID:

DEMOGRAPHIC INFORMATION

1. Date of Birth.. |__|__|-|__|__|-|__|__|
MO DA YR
999999 = Unknown/No Mention

2. Race.. |__|

1 = White
2 = Black
3 = Asian/Pacific Islander
4 = Aleut/Eskimo/American Indian
9 = Unknown/No Mention

3. Hispanic origin.. |__|

1 = Yes
2 = No
9 = Unknown/No Mention

ADMISSION/DISCHARGE INFORMATION

4. Date of Admission.. |__|__|-|__|__|-|__|__|
MO DA YR

999999 = Unknown/No Mention

5. Time of Admission .... |__|__|-|__|__|-|__|
HR MIN
(Record time, then enter 1 = AM, 2 = PM, 3 = MT)
99999 = unknown/No mention

6. Method of Payment .... |__|
SPECIFY SOURCE: ______________________________

1 = Private Source
2 = Public Source
9 = Unknown/No mention

7. Date of Mother's Discharge .... |__|__|-|__|__|-|__|__|
MO DA YR

000000 = Still Hospitalized (Q9)
999999 = Unknown/No Mention

8. Disposition at Discharge .... |__|__|

01 = Sent Home
02 = Transferred to Other Hospital
03 = Maternal Death
(Record date of death
as date of discharge in Q7)
96 = Other (SPECIFY)________________
99 = Unknown/No Mention

9. Referred for treatment of substance abuse problem during this pregnancy .... |__|

1 = Yes (Q10)
2 = No (Q12)

REASON FOR REFERRAL FOR TREATMENT OF SUBSTANCE ABUSE PROBLEM

10. (SPECIFY)____ |__|__|

11. (SPECIFY)____ |__|__|

HEMOGLOBIN/HEMATOCRIT

12. Most Recent Hemoglobin (Hgb) Before Delivery.........|__|__|.|__| gms/dl |__|__|-|__|__|-|__|__|
999 = Unknown/No Mention MO DA YR

13. Most Recent Hematocrit (Hct) Before Delivery ....|__|__|.|__|% |__|__|-|__|__|-|__|__|
999 = Unknown/No Mention MO DA YR

DELIVERY INFORMATION

14. Estimated Date of Delivery/Confinement (EDC, Due Date)................................|__|__|-|__|__|-|__|__|
999999 = Unknown/No Mention MO DA YR

15. Date of Delivery ....|__|__|-|__|__|-|__|__|
MO DA YR

16. Labor Induced .... |__|

1 = Yes
2 = No
9 = Unknown/No Mention

17. Type of Delivery .... |__|

1 = Normal Spontaneous Vaginal Delivery
2 = Vaginal delivery, other (SPECIFY):
____
3 = Cesarean Delivery/Section

18. Estimate of Infant's Gestational age after delivery .... |__|__|
WKS

OFFICE USE ONLY |__|__|

CHRONIC DISEASES (Circle the correct code)

		Yes	No
19.	Anemia	1	2
20.	Cancer	1	2
21.	Heart/Cardiac Problems	1	2
22.	Gastrointestinal Disease	1	2
23.	Hepatitis B (HBV)	1	2
24.	Hypertension	1	2
25.	Kidney Disease	1	2
26.	Liver Disease	1	2
27.	Lung Disease including Asthma	1	2
28.	Psychiatric Disease	1	2
29.	Seizure Disorder/Epilepsy/Convulsive Disorder	1	2
30.	Sickle Cell Disease or Sickle Cell Anemia	1	2
31.	Tuberculosis (Tbc)	1	2
32.	Type I Diabetes/insulin dependent diabetes/IDDM	1	2
33.	Type II Diabetes/non-insulin dependent/NIDDM	1	2
34.	Diabetes - type not specified ____________________	1	2
35.	Other (SPECIFY) ____________________	1	2

36. (SPECIFY)____________________

37. (SPECIFY)____________________

38. (SPECIFY)____________________

URINE TOXICOLOGY SCREEN(S) DURING THIS PREGNANCY

|__|__|

39. Evidence of Urine Toxicology Screen Done During This Pregnancy (prior to delivery) .... |__|

1 = Yes (Q40a)   2 = No (BOX A)   9 = No Mention (BOX A)

		Marijuana*			Cocaine**			Opiates***			Amphetamine****	
Date Specimen Collected		b. Screening Test	c. Confirmatory Test		d. Screening Test	e. Confirmatory Test		f. Screening Test	g. Confirmatory Test		h. Screening Test	i. Confirmatory Test
40a. |__|__| |__|__| |__|__|	Neg	|__|	|__|	Neg	|__|	|__|	Neg	|__|	|__|	Neg	|__|	|__|
M D Y	Pos	|__|	|__|	Pos	|__|	|__|	Pos	|__|	|__|	Pos	|__|	|__|
	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|

j. Other Drugs |__| (Specify) →		k. ____________			n. ____________			q. ____________			t. ____________	
1 = Yes 2 = No 9 = No mention		l. Screening Test	m. Confirmatory Test		o. Screening Test	p. Confirmatory Test		r. Screening Test	s. Confirmatory Test		u. Screening Test	v. Confirmatory Test
	Neg	|__|	|__|	Neg	|__|	|__|	Neg	|__|	|__|	Neg	|__|	|__|
	Pos	|__|	|__|	Pos	|__|	|__|	Pos	|__|	|__|	Pos	|__|	|__|
	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|

		Marijuana*			Cocaine**			Opiates***			Amphetamine****	
Date Specimen Collected		b. Screening Test	c. Confirmatory Test		d. Screening Test	e. Confirmatory Test		f. Screening Test	g. Confirmatory Test		h. Screening Test	i. Confirmatory Test
41a. |__|__| |__|__| |__|__|	Neg	|__|	|__|	Neg	|__|	|__|	Neg	|__|	|__|	Neg	|__|	|__|
M D Y	Pos	|__|	|__|	Pos	|__|	|__|	Pos	|__|	|__|	Pos	|__|	|__|
	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|

j. Other Drugs |__| (Specify) →		k. ____________			n. ____________			q. ____________			t. ____________	
1 = Yes 2 = No 9 = No mention		l. Screening Test	m. Confirmatory Test		o. Screening Test	p. Confirmatory Test		r. Screening Test	s. Confirmatory Test		u. Screening Test	v. Confirmatory Test
	Neg	|__|	|__|	Neg	|__|	|__|	Neg	|__|	|__|	Neg	|__|	|__|
	Pos	|__|	|__|	Pos	|__|	|__|	Pos	|__|	|__|	Pos	|__|	|__|
	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|

		Marijuana*			Cocaine**			Opiates***			Amphetamine****	
Date Specimen Collected		b. Screening Test	c. Confirmatory Test		d. Screening Test	e. Confirmatory Test		f. Screening Test	g. Confirmatory Test		h. Screening Test	i. Confirmatory Test
42a. |__|__| |__|__| |__|__|	Neg	|__|	|__|	Neg	|__|	|__|	Neg	|__|	|__|	Neg	|__|	|__|
M D Y	Pos	|__|	|__|	Pos	|__|	|__|	Pos	|__|	|__|	Pos	|__|	|__|
	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|

j. Other Drugs |__| (Specify) →		k. ____________			n. ____________			q. ____________			t. ____________	
1 = Yes 2 = No 9 = No mention		l. Screening Test	m. Confirmatory Test		o. Screening Test	p. Confirmatory Test		r. Screening Test	s. Confirmatory Test		u. Screening Test	v. Confirmatory Test
	Neg	|__|	|__|	Neg	|__|	|__|	Neg	|__|	|__|	Neg	|__|	|__|
	Pos	|__|	|__|	Pos	|__|	|__|	Pos	|__|	|__|	Pos	|__|	|__|
	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|	Not done/ No mention	|__|	|__|

CHECK BOX IF CONTINUATION SHEET USED ☐ |__|

* Tetrahydrocannabinol (THC) - (Marijuana metabolite)
** Benzoylecgonine (Cocaine metabolite)
*** Opiates (morphine, codeine, heroin, Dilaudid)
**** Amphetamines/Methamphetamine

MEDICAL CONDITIONS/INFECTIONS/DISCHARGE DIAGNOSES DURING THIS PREGNANCY

OFFICE USE ONLY ☐☐

DISCHARGE DIAGNOSES/ CHECKLIST CONDITIONS/ PROCEDURES	Discharge Diagnosis (✓)	Probable, Possible, or R/O Diagnoses (✓)	ICD-9-CM CODES
43. ____________________	☐	☐	☐☐☐☐☐
44. ____________________	☐	☐	☐☐☐☐☐
45. ____________________	☐	☐	☐☐☐☐☐
46. ____________________	☐	☐	☐☐☐☐☐
47. ____________________	☐	☐	☐☐☐☐☐
48. ____________________	☐	☐	☐☐☐☐☐
49. ____________________	☐	☐	☐☐☐☐☐
50. ____________________	☐	☐	☐☐☐☐☐
51. ____________________	☐	☐	☐☐☐☐☐
52. ____________________	☐	☐	☐☐☐☐☐
53. ____________________	☐	☐	☐☐☐☐☐
54. ____________________	☐	☐	☐☐☐☐☐
55. ____________________	☐	☐	☐☐☐☐☐
56. ____________________	☐	☐	☐☐☐☐☐
57. ____________________	☐	☐	☐☐☐☐☐
58. ____________________	☐	☐	☐☐☐☐☐
59. ____________________	☐	☐	☐☐☐☐☐
60. ____________________	☐	☐	☐☐☐☐☐
61. ____________________	☐	☐	☐☐☐☐☐

BOX A

COMPLETE AT END OF ABSTRACT:

|__|

A1. Spanish Surname

Yes 1
No 2
Unsure 8

A2. Number of Infant Part II Forms Accompanying This Form .... |__|

Photocopies Attached (Enter 1 = yes or 2 = no):

A3. Face Sheet/Admission Sheet .... |__|

If no, reason: ______________________________

A4. Admission History and Physical/Admit Note .... |__|

If no, reason: ______________________________

A5. Obstetrical/Delivery Summary .... |__|

If no, reason: ______________________________

A6. Discharge Summary/Note .... |__|

If no, reason: ______________________________

Comments: (For each comment indicate item number to which comment refers.)

Page |__| of |__|

Continuation Sheet
Urine Toxicology Screens

Westat ID:

Date Specimen Collected

a. |__|__| |__|__| |__|__|
M D Y

	Marijuana*		Cocaine**		Opiates***		Amphetamine****	
	b. Screening Test	c. Confirmatory Test	d. Screening Test	e. Confirmatory Test	f. Screening Test	g. Confirmatory Test	h. Screening Test	i. Confirmatory Test
Neg	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
Pos	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
Not done / No mention	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|

j. Other Drugs |__| (Specify) →
1 = Yes
2 = No
9 = No mention

	k. ____________		n. ____________		q. ____________		t. ____________	
	l. Screening Test	m. Confirmatory Test	o. Screening Test	p. Confirmatory Test	r. Screening Test	s. Confirmatory Test	u. Screening Test	v. Confirmatory Test
Neg	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
Pos	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
Not done / No mention	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|

Date Specimen Collected

a. |__|__| |__|__| |__|__|
M D Y

	Marijuana*		Cocaine**		Opiates***		Amphetamine****	
	b. Screening Test	c. Confirmatory Test	d. Screening Test	e. Confirmatory Test	f. Screening Test	g. Confirmatory Test	h. Screening Test	i. Confirmatory Test
Neg	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
Pos	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
Not done / No mention	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|

j. Other Drugs |__| (Specify) →
1 = Yes
2 = No
9 = No mention

	k. ____________		n. ____________		q. ____________		t. ____________	
	l. Screening Test	m. Confirmatory Test	o. Screening Test	p. Confirmatory Test	r. Screening Test	s. Confirmatory Test	u. Screening Test	v. Confirmatory Test
Neg	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
Pos	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
Not done / No mention	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|

Date Specimen Collected

a. |__|__| |__|__| |__|__|
M D Y

	Marijuana*		Cocaine**		Opiates***		Amphetamine****	
	b. Screening Test	c. Confirmatory Test	d. Screening Test	e. Confirmatory Test	f. Screening Test	g. Confirmatory Test	h. Screening Test	i. Confirmatory Test
Neg	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
Pos	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
Not done / No mention	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|

j. Other Drugs |__| (Specify) →
1 = Yes
2 = No
9 = No mention

	k. ____________		n. ____________		q. ____________		t. ____________	
	l. Screening Test	m. Confirmatory Test	o. Screening Test	p. Confirmatory Test	r. Screening Test	s. Confirmatory Test	u. Screening Test	v. Confirmatory Test
Neg	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
Pos	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|
Not done / No mention	|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|

* Tetrahydrocannabinol (THC) - (Marijuana metabolite)
** Benzoylecgonine (Cocaine metabolite)
*** Opiates (morphine, codeine, heroin, Dilaudid)
**** Amphetamines/Methamphetamine

National Pregnancy and Health Survey

Part II
Infant's Record Abstract

Field Use Only

Review 1 Complete ☐
Review 2 Complete ☐
Medical Records Requested ☐

Interviewer ID: |__|__|__|

Date Complete Review 1: |__|__|-|__|__|-|__|__|
MO DA YR

Date Complete Review 2: |__|__|-|__|__|-|__|__|
MO DA YR

Estimated time to complete: |__|__|
MIN

Westat ID:

DEMOGRAPHIC INFORMATION

1. Date of Birth.................................... |__|__|-|__|__|-|__|__|
MO DA YR

2. Infant's Race.................................... |__|

1 = White
2 = Black
3 = Asian/Pacific Islander
4 = Aleut/Eskimo/American Indian
9 = Unknown/No Mention

3. Hispanic Origin.................................... |__|

1 = Yes
2 = No
9 = Unknown/No Mention

4. Infant's Sex.................................... |__|

1 = Male
2 = Female

BIRTH/DISCHARGE INFORMATION

5. Time of Birth .... |__|__|-|__|__|-|__|
(Record time, then enter 1 = AM, 2 = PM, 3 = MT) HR MIN
99999 = unknown/No mention

6. Apgar Score ....AT ONE MINUTE: |__|__|
99 = Unknown/No mention AT FIVE MINUTES: |__|__|

7. Birthweight.................................... |__|__|__|__| GM
OR
|__|__| LB |__|__| OZ

8. Length at birth .... |__|__|.|__| inches = 1 |__|
(Record Length, then enter 1=inches or 2=centimeters (cm)) cm = 2
9999 = Unknown/No mention

9. Head Circumference at birth .... |__|__|.|__| inches = 1 |__|
(Record Head Circumference, then enter 1=inches or 2=centimeters (cm)) cm = 2
9999 = Unknown/No mention

10. Single/Multiple Birth .... Number |__| of |__| Infant(s)
(If a single birth, skip to Q13)

11. If multiple birth, number liveborn .... Number liveborn |__|
9 = Unknown/No mention

12. If multiple birth, number stillborn .... Number stillborn |__|
9 = Unknown/No mention 0 = None

13. Date of Discharge of Infant .... |__|__|-|__|__|-|__|__|
MO DA YR
000000 = Still Hospitalized (Q15)
999999 = Unknown/No Mention

14. Infant's Status/Disposition at Discharge .... |__|__|

01 = With Mother/Father
02 = A Relative Other Than Mother/Father
03 = Foster Care or Children's Welfare Services
04 = Specialized Foster Care (e.g., infant able to leave hospital but requires special medical care)
05 = Another Hospital
06 = Deceased (Record date of death as date of discharge in Q13)
07 = Adoptive Parent
96 = Other (SPECIFY)________________________________
99 = Unknown/No mention

15. Referred to Social Services .... |__|

1 = Yes (Q16)
2 = No (Q18)

REASON(S) FOR REFERRAL TO SOCIAL SERVICES:

16. (SPECIFY)____ |__|__|

17. (SPECIFY)____ |__|__|

18. Any Social Diagnosis/Situation/Maternal Medical Condition Recorded in Infant's Chart as Reason for Prolonging Infant's Stay in Hospital .... |__|

1 = Yes (Q19)
2 = No (Q21)

REASON(S):

19. (SPECIFY)______________________________ |__|__|

20. (SPECIFY)______________________________ |__|__|

FIRST URINE TOXICOLOGY SCREEN

21. First Urine Toxicology Screen After Delivery.. |__|

1 = Yes (Q22a) 2 = No (BOX A) 9 = No Mention (BOX A)

Date Specimen Collected		Marijuana* c. Screening Test	Marijuana* d. Confirmatory Test		Cocaine** e. Screening Test	Cocaine** f. Confirmatory Test		Opiates*** g. Screening Test	Opiates*** h. Confirmatory Test		Amphetamine**** i. Screening Test	Amphetamine**** j. Confirmatory Test
22a. ☐☐ ☐☐ ☐☐ M D Y	Neg	☐	☐	Neg	☐	☐	Neg	☐	☐	Neg	☐	☐
	Pos	☐	☐	Pos	☐	☐	Pos	☐	☐	Pos	☐	☐
	Not done/ No mention	☐	☐	Not done/ No mention	☐	☐	Not done/ No mention	☐	☐	Not done/ No mention	☐	☐

b. Time Specimen Collected

|__|__|·|__|__|·|__| AM = 1 MT = 3
HR MIN PM = 2 NM = 9

k. Other Drugs |__| (Specify) →
1 = Yes
2 = No
9 = No mention

	l. ____________ m. Screening Test	n. Confirmatory Test		o. ____________ p. Screening Test	q. Confirmatory Test		r. ____________ s. Screening Test	t. Confirmatory Test		u. ____________ v. Screening Test	w. Confirmatory Test
Neg	☐	☐	Neg	☐	☐	Neg	☐	☐	Neg	☐	☐
Pos	☐	☐	Pos	☐	☐	Pos	☐	☐	Pos	☐	☐
Not done/ No mention	☐	☐	Not done/ No mention	☐	☐	Not done/ No mention	☐	☐	Not done/ No mention	☐	☐

* Tetrahydrocannabinol (THC) - (Marijuana metabolite)
** Benzoylecgonine (Cocaine metabolite)
*** Opiates (morphine, codeine, heroin, Dilaudid)
**** Amphetamines/Methamphetamine

OFFICE USE ONLY |__|__|

DISCHARGE DIAGNOSES/ CHECKLIST CONDITIONS	Discharge Diagnosis (✓)	Probable, Possible, or R/O Diagnoses (✓)	ICD-9-CM CODES
23. ____________________	☐	☐	☐☐☐☐☐
24. ____________________	☐	☐	☐☐☐☐☐
25. ____________________	☐	☐	☐☐☐☐☐
26. ____________________	☐	☐	☐☐☐☐☐
27. ____________________	☐	☐	☐☐☐☐☐
28. ____________________	☐	☐	☐☐☐☐☐
29. ____________________	☐	☐	☐☐☐☐☐
30. ____________________	☐	☐	☐☐☐☐☐
31. ____________________	☐	☐	☐☐☐☐☐
32. ____________________	☐	☐	☐☐☐☐☐

BOX A

COMPLETE AT END OF ABSTRACT: |__|

Photocopies Attached (Enter 1 = yes or 2 = No):

A1. Face Sheet/Admission Sheet .... |__|

If no, reason: ________________________________

A2. Admission History and Physical/Admit Note .... |__|

If no, reason: ________________________________

A3. Obstetrical/Delivery Summary .... |__|

If no, reason: ________________________________

A4. Discharge Summary/Note .... |__|

If no, reason: ________________________________

Comments: (For each comment indicate item number to which comment refers.)

Page ☐ of ☐

Continuation Sheet
Urine Toxicology Screens

Westat ID:

		Marijuana*		Cocaine**		Opiates***		Amphetamine****	
Date Specimen Collected		b. Screening Test	c. Confirmatory Test	d. Screening Test	e. Confirmatory Test	f. Screening Test	g. Confirmatory Test	h. Screening Test	i. Confirmatory Test
a. ☐☐ ☐☐ ☐☐ M D Y	Neg	☐	☐	☐	☐	☐	☐	☐	☐
	Pos	☐	☐	☐	☐	☐	☐	☐	☐
	Not done/ No mention	☐	☐	☐	☐	☐	☐	☐	☐
j. Other Drugs ☐ 1 = Yes 2 = No 9 = No mention	(Specify) →	k. ____________		n. ____________		q. ____________		t. ____________	
		l. Screening Test	m. Confirmatory Test	o. Screening Test	p. Confirmatory Test	r. Screening Test	s. Confirmatory Test	u. Screening Test	v. Confirmatory Test
	Neg	☐	☐	☐	☐	☐	☐	☐	☐
	Pos	☐	☐	☐	☐	☐	☐	☐	☐
	Not done/ No mention	☐	☐	☐	☐	☐	☐	☐	☐

☐

		Marijuana*		Cocaine**		Opiates***		Amphetamine****	
Date Specimen Collected		b. Screening Test	c. Confirmatory Test	d. Screening Test	e. Confirmatory Test	f. Screening Test	g. Confirmatory Test	h. Screening Test	i. Confirmatory Test
a. ☐☐ ☐☐ ☐☐ M D Y	Neg	☐	☐	☐	☐	☐	☐	☐	☐
	Pos	☐	☐	☐	☐	☐	☐	☐	☐
	Not done/ No mention	☐	☐	☐	☐	☐	☐	☐	☐
j. Other Drugs ☐ 1 = Yes 2 = No 9 = No mention	(Specify) →	k. ____________		n. ____________		q. ____________		t. ____________	
		l. Screening Test	m. Confirmatory Test	o. Screening Test	p. Confirmatory Test	r. Screening Test	s. Confirmatory Test	u. Screening Test	v. Confirmatory Test
	Neg	☐	☐	☐	☐	☐	☐	☐	☐
	Pos	☐	☐	☐	☐	☐	☐	☐	☐
	Not done/ No mention	☐	☐	☐	☐	☐	☐	☐	☐

☐

		Marijuana*		Cocaine**		Opiates***		Amphetamine****	
Date Specimen Collected		b. Screening Test	c. Confirmatory Test	d. Screening Test	e. Confirmatory Test	f. Screening Test	g. Confirmatory Test	h. Screening Test	i. Confirmatory Test
a. ☐☐ ☐☐ ☐☐ M D Y	Neg	☐	☐	☐	☐	☐	☐	☐	☐
	Pos	☐	☐	☐	☐	☐	☐	☐	☐
	Not done/ No mention	☐	☐	☐	☐	☐	☐	☐	☐
j. Other Drugs ☐ 1 = Yes 2 = No 9 = No mention	(Specify) →	k. ____________		n. ____________		q. ____________		t. ____________	
		l. Screening Test	m. Confirmatory Test	o. Screening Test	p. Confirmatory Test	r. Screening Test	s. Confirmatory Test	u. Screening Test	v. Confirmatory Test
	Neg	☐	☐	☐	☐	☐	☐	☐	☐
	Pos	☐	☐	☐	☐	☐	☐	☐	☐
	Not done/ No mention	☐	☐	☐	☐	☐	☐	☐	☐

☐

☐☐

* Tetrahydrocannabinol (THC) - (Marijuana metabolite)
** Benzoylecgonine (Cocaine metabolite)
*** Opiates (morphine, codeine, heroin, Dilaudid)
**** Amphetamines/Methamphetamine

NPHS

REQUEST FOR MEDICAL RECORDS

Requested by ______________________________ Date ____________

______________________________ is participating in the National Pregnancy and Health
(Hospital Name)
Survey for the U.S. Department of Health and Human Services. As part of this survey, we are abstracting records of mothers and babies they deliver in this hospital. Written consent has been obtained from the mothers.

Please make available the following records for review on ______________________________.
(Date)

MOTHERS		INFANTS	
NAME	HOSP. ID	NAME	HOSP. ID

Comments: ______________________________

____

____

NPHS

MEDICAL RECORD REQUEST

As part of the National Pregnancy and Health Survey (NPHS), we are abstracting records of mothers and the babies they deliver in this hospital. Written consent has been obtained for the abstracting of these records. Under study protocol, the link of patient identifiers to the study ID will be destroyed 30 days after the interviewer leaves the hospital. The destroy date is listed below. We must obtain photocopies from patient records prior to the destroy date. When possible, we would like photocopied record parts at least one week after discharge so that all pertinent information has been updated in the record. If you have any questions, please call Merle Klein at 1-800-937-8281. Thank you for your cooperation.

DATE OF REQUEST: |___|___| - |___|___| - |___|___|

DESTROY DATE: |___|___| - |___|___| - |___|___|

MEDICAL RECORD NUMBER: ______________________________

DELIVERY DATE: |___|___| - |___|___| - |___|___|

DISCHARGE DATE: |___|___| - |___|___| - |___|___|

WESTAT ID: |___|___|___| - |___|___|___| - |___|___|

HOSPITAL CONTACT NAME: ________________________ PHONE: ( ) ______________

Please attach a photocopy of the following items from the medical record for the admission connected to the delivery date listed above:

☐ Face Sheet/Admission Sheet

☐ Admission History and Physical/Admit Note

☐ Obstetrical/Delivery Summary

☐ Urine Toxicology Screen Results

☐ Discharge Summary/Note

☐ ______________________________

Please send in the attached postage-paid envelope to:

Westat, Inc.
WB 337, 939625
1650 Research Boulevard
Rockville, MD 20850

Mother Record ☐

Infant Record ☐

PATIENT NAME: ____
FIRST MIDDLE LAST

Exhibit 2-1. Sampling Schedule

1. Sampling

If Day 1 is:	Start sampling at:	With first live birth at:
Sunday	Monday 8:00 a.m.	Sunday 8:00 p.m.
Monday	Tuesday 8:00 a.m.	Monday 8:00 p.m.
Tuesday	Wednesday 8:00 a.m.	Tuesday 8:00 p.m.
Wednesday	Thursday 8:00 a.m.	Wednesday 8:00 p.m.
Thursday	Friday 8:00 a.m.	Thursday 8:00 p.m.
Friday	Saturday 8:00 a.m.	Friday 8:00 p.m.
Saturday	Sunday 8:00 a.m.	Saturday 8:00 p.m.

2. Sampling Before and After Days Off

	Stop sampling		Resume sampling	
If your days off are:	at:	with:	at:	with:
		last live birth before		First live birth at:
Sat. - Sun.	Fri. 8:00 a.m.	Fri. 8:00 a.m.	Mon. 8:00 a.m.	Sun. 8:00 a.m.
Sun. - Mon.	Sat. 8:00 a.m.	Sat. 8:00 a.m.	Tues. 8:00 a.m.	Mon. 8:00 a.m.
Mon. - Tues.	Sun. 8:00 a.m.	Sun. 8:00 a.m.	Wed. 8:00 a.m.	Tues. 8:00 a.m.
Tues. - Wed.	Mon. 8:00 a.m.	Mon. 8:00 a.m.	Thurs. 8:00 a.m.	Wed. 8:00 a.m.
Wed. - Thur.	Tues. 8:00 a.m.	Tues. 8:00 a.m.	Fri. 8:00 a.m.	Thur. 8:00 a.m.
Thur. - Fri.	Wed. 8:00 a.m.	Wed. 8:00 a.m.	Sat. 8:00 a.m.	Fri. 8:00 a.m.
Fri. - Sat.	Thur. 8:00 a.m.	Thur. 8:00 a.m.	Sun. 8:00 a.m.	Sat. 8:00 a.m.

3. Sampling on Last Day

If Last Day is:	End Sampling at:	STOP with last live birth before:
Sunday	Monday 8:00 a.m.	Sunday 8:00 p.m.
Monday	Tuesday 8:00 a.m.	Monday 8:00 p.m.
Tuesday	Wednesday 8:00 a.m.	Tuesday 8:00 p.m.
Wednesday	Thursday 8:00 a.m.	Wednesday 8:00 p.m.
Thursday	Friday 8:00 a.m.	Thursday 8:00 p.m.
Friday	Saturday 8:00 a.m.	Friday 8:00 p.m.
Saturday	Sunday 8:00 a.m.	Saturday 8:00 p.m.

HOSPITAL ID: |__|__|__|

INTERVIEWER ID: |__|__|__|

NPHS

LOG OF MOTHERS DELIVERING LIVE INFANTS

DAY	DATE	No. mothers deliver live births	No. mothers sampled	DAY	DATE	No. mothers deliver live births	No. mothers sampled
1				26			
2				27			
3				28			
4				29			
5				30			
6				31			
7				32			
8				33			
9				34			
10				35			
11				36			
12				37			
13				38			
14				39			
15				40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

OVERVIEW OF THE NPHS FOR NURSING STAFF

SPONSOR:

The National Pregnancy and Health Survey is being sponsored by the National Institute on Drug Abuse (NIDA) and is being conducted by Westat, Inc., a national research company located in the Metropolitan Washington, DC, area.

PURPOSE:

The objectives of the survey are:

- To measure the prevalence of licit and illicit drug use during pregnancy in a nationally representative sample of postpartum women;
- To describe the patterns of drug use during pregnancy, including types of drugs used, timing of use by trimester, and frequency of use; and
- To assess the association between in utero drug exposure and birthweight and infant's length of stay in the hospital.

SAMPLE:

Approximately 60 hospitals have been selected for the survey. In metropolitan area hospitals the sample size will be 85 women; in nonmetropolitan hospitals about 56 women will be selected. Overall, a total sample of about 3,100 women will be selected. Interviewers will sample from the delivery log(s) at the hospital.

STUDY COMPONENTS:

- Blinded Study: For the blinded study, a portion of the urine collected at admission will be tested for women selected for the study, using procedures to assure anonymity of the subject. Then a few pieces of demographic data will be linked to the specimen.
- Nonblinded Study:
  - Approach for Participation: Interviewers will approach selected subjects no sooner than 6 hours after normal vaginal delivery and no sooner than 36 hours after C-section.
  - Interview: An interview consisting of questions about obstetric history and demographic characteristics will be administered by the interviewer and study subjects will be asked to complete a self-administered questionnaire concerning use of alcohol, cigarettes, and licit and illicit drugs in pregnancy.
  - Urine Testing: A toxicology screen will be done on intake urines of women who consent to have urine tested. Hospital staff will collect and store urine specimens, and the interviewer will process and ship all urine.
  - Record Abstracting: The medical records of the sampled subjects and their infants will be abstracted and portions of the record photocopied for women who have consented to the medical record review and abstract.

NURSE'S ACTIVITIES:

- Urine Collection: Nursing staff are asked to collect an intake urine (60 ml if possible) on all women admitted for delivery, including C-sections and women with amniotic fluid leakage. The specimen should be labeled with the woman's name, hospital ID, and date and time of collection and placed in a designated refrigerator or cooler. Specimens sent to the laboratory should have a yellow SAVE sticker affixed to the collection cup. The interviewer will provide the stickers.
- Access: Nursing staff are asked to assist with access to study subjects and to assist with access to the medical records of study subjects and their infants on the hospital floor.
- Briefing: The Westat interviewer will ask daily if there are any circumstances she should know about before approaching a study subject. She will also ask the charge nurse to remind nurses at each change of shift to collect urine specimens.

NIH 2722-25 [10/92]

OVERVIEW OF THE NPHS FOR NURSING STAFF

SPONSOR:

The National Pregnancy and Health Survey is being sponsored by the National Institute on Drug Abuse (NIDA) and is being conducted by Westat, Inc., a national research company located in the Metropolitan Washington, DC, area.

PURPOSE:

The objectives of the survey are:

- To measure the prevalence of licit and illicit drug use during pregnancy in a nationally representative sample of postpartum women;
- To describe the patterns of drug use during pregnancy, including types of drugs used, timing of use by trimester, and frequency of use; and
- To assess the association between in utero drug exposure and birthweight and infant's length of stay in the hospital.

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  - Record Abstracting: The medical records of the sampled subjects and their infants will be abstracted and portions of the record photocopied for women who have consented to the medical record review and abstract.
  - Hair Testing: A lock of hair will be collected and tested for illicit drugs if consent is given.

NURSE'S ACTIVITIES:

- Urine Collection: Nursing staff are asked to collect an intake urine (60 ml if possible) on all women admitted for delivery, including C-sections and women with amniotic fluid leakage. The specimen should be labeled with the woman's name, hospital ID, and date and time of collection and placed in a designated refrigerator or cooler. Specimens sent to the laboratory should have a yellow SAVE sticker affixed to the collection cup. The interviewer will provide the stickers.
- Access: Nurses are asked to assist with access to study subjects and to assist with access to the medical records of study subjects and their infants on the hospital floor.
- Briefing: The Westat interviewer will ask the charge nurse daily if there are any circumstances she should know about before approaching a study subject. She will also ask the charge nurse to remind nurses at each change of shift to collect urine specimens.

NIH 2722-26 [10/92]

OVERVIEW OF THE NPHS FOR NURSING STAFF

SPONSOR:

The National Pregnancy and Health Survey is being sponsored by the National Institute on Drug Abuse (NIDA) and is being conducted by Westat, Inc., a national research company located in the Metropolitan Washington, DC, area.

PURPOSE:

The objectives of the survey are:

- To measure the prevalence of licit and illicit drug use during pregnancy in a nationally representative sample of postpartum women;
- To describe the patterns of drug use during pregnancy, including types of drugs used, timing of use by trimester, and frequency of use; and
- To assess the association between in utero drug exposure and birthweight and infant's length of stay in the hospital.

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Approximately 60 hospitals have been selected for the survey. In metropolitan area hospitals the sample size will be 85 women; in nonmetropolitan hospitals about 56 women will be selected. Overall, a total sample of about 3,100 women will be selected. Interviewers will sample from the delivery log(s) at the hospital.

STUDY COMPONENTS:

- Approach for Participation: Interviewers will approach selected subjects no sooner than 6 hours after normal vaginal delivery and no sooner than 36 hours after C-section.
- Interview: An interview consisting of questions about obstetric history and demographic characteristics will be administered by the interviewer and study subjects will be asked to complete a self-administered questionnaire concerning use of alcohol, cigarettes, and licit and illicit drugs in pregnancy.
- Urine Testing: A toxicology screen will be done on intake urines of women who consent to have urine tested. Hospital staff will collect and store urine specimens, and the interviewer will process and ship all urine.
- Record Abstracting: The medical records of the sampled subjects and their infants will be abstracted and portions of the record photocopied for women who have consented to the medical record review and abstract.

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- Access: Nurses are asked to assist with access to study subjects and to assist with access to the medical records of study subjects and their infants on the hospital floor.
- Briefing: The Westat interviewer will ask the charge nurse daily if there are any circumstances she should know about before approaching a study subject. She will also ask the charge nurse to remind nurses at each change of shift to collect urine specimens.

NIH 2722-27 [10/92]

OVERVIEW OF THE NPHS FOR NURSING STAFF

SPONSOR:

The National Pregnancy and Health Survey is being sponsored by the National Institute on Drug Abuse (NIDA) and is being conducted by Westat, Inc., a national research company located in the Metropolitan Washington, DC, area.

PURPOSE:

The objectives of the survey are:

- To measure the prevalence of licit and illicit drug use during pregnancy in a nationally representative sample of postpartum women;
- To describe the patterns of drug use during pregnancy, including types of drugs used, timing of use by trimester, and frequency of use; and
- To assess the association between in utero drug exposure and birthweight and infant's length of stay in the hospital.

SAMPLE:

Approximately 60 hospitals have been selected for the survey. In metropolitan area hospitals the sample size will be 85 women; in nonmetropolitan hospitals about 56 women will be selected. Overall, a total sample of about 3,100 women will be selected. Interviewers will sample from the delivery log(s) at the hospital.

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- Hair Testing: A lock of hair will be collected and tested for illicit drugs if consent is given.

NURSE'S ACTIVITIES:

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- Access: Nursing staff are asked to assist with access to study subjects and to assist with access to the medical records of study subjects and their infants on the hospital floor.
- Briefing: The Westat interviewer will ask daily if there are any circumstances she should know about before approaching a study subject. She will also ask the charge nurse to remind nurses at each change of shift to collect urine specimens.

NIH 2722-28 [10/92]

NATIONAL PREGNANCY AND HEALTH SURVEY

Questions Which May be Asked by Patients and Suggested Answers

Q. **How was I chosen?**

A. You were chosen by a scientific method that gives every woman who delivers a liveborn baby in this hospital an equal chance of being chosen to participate in the study. Since it is not possible to talk to every woman who delivers a baby in each hospital, each woman selected will represent hundreds of women with similar characteristics who live in the same part of the country. For that reason, the participation of each woman who is selected is very important.

Q. **How was this hospital chosen?**

A. This hospital was selected by a scientific sampling of hospitals in the United States. This hospital is one of more than 60 hospitals that was selected for participation in this nationwide survey. Since it is not possible to obtain data from every hospital where babies are born, each hospital selected represents hundreds of hospitals with similar characteristics throughout the United States.

Q. **What is the purpose of the study?**

A. The purpose of the National Pregnancy and Health Survey is to gather information on the behaviors and health practices of women during pregnancy and how these practices may affect the health of newborn babies. It is being conducted in more than 60 hospitals across the United States. The survey will provide researchers with important information about the health and medical needs of pregnant women and their newborn babies.

Q. **How do I know the information I give will be kept confidential?**

A. Any information you give will be kept confidential. All study personnel, including myself, must sign a statement pledging to keep confidential all information provided by women participating in the study. In addition, Westat has obtained a special Certificate of Confidentiality for this survey. This means that Westat study personnel cannot be compelled by any person or court of law to release your name or your child's name or to identify your name or your child's name with any answers you give. A roster of personal identifiers, i.e.,, medical record number and names of mother and infant(s), will be destroyed as soon as the discharge information on the summary for mother and infant is available or up to 1 month after I finish working at this hospital, whichever time period is shorter. The urine and/or hair will not be tested until the link between the personal identifiers and the Westat ID has been destroyed.

Q. **Why should I participate?**

A. There has never been a survey of this type conducted before. This is the first nation wide survey that will provide information on the habits and activities of pregnant women from all different backgrounds and regions. Being selected to participate in the survey makes you a very special person. Since it is not possible to interview every woman who just delivered a baby, we have selected only a certain number of women who will represent hundreds of women with similar characteristics, who live in the same part of the country. Your participation is very important so that the results will show a true picture of pregnant women across the United States.

Q. **Who else are they talking to?**

A. The study will be conducted with more than 3,200 women in about 60 hospitals across the United States. They will be talking to a number of women who have just delivered a baby in this and other hospitals. The names of the women in the survey are confidential information.

Q. **What other hospitals are in the study?**

A. The study will be conducted in about 60 hospitals across the United States with more than 3,200 women. The names of the hospitals are confidential information.

Q. **How will the results be used?**

A. The survey will provide important information about the health and medical needs of pregnant women and their newborn babies. There is a great need for programs for the prevention and treatment of drug use by pregnant women. Data from this survey can be used to see that such programs are designed and placed where they will have the greatest impact.

Q. **How will I benefit from the study?**

A. Although there may be no immediate direct benefit to you, you may benefit indirectly. The information from the study can be used by Federal and state agencies to make decisions regarding the medical needs of pregnant women and their infants. In addition, whether or not you participate, they are giving a gift to each woman as a small token of appreciation.

Q. **How long will it take to complete the interview?**

A. It will take 50 to 60 minutes to complete.

Q. **Who is Westat?**

A. Westat is an independent research organization located in the Washington, DC metropolitan area. The firm conducts surveys and evaluations on many different subjects and was chosen by the U.S. Public Health Service to conduct this survey.

Q. **Will the doctor/hospital have access to my answers and the results of my urine (and hair) test?**

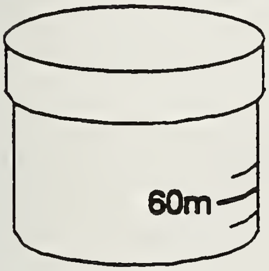
A. No. Your answers will be mailed directly to Westat with only the study ID on the questionnaire. Your urine (and hair) will be sent to a laboratory that has no connection with this hospital. It (they) will not be tested until after the link between your name and the study ID number has been destroyed. Therefore there will be no way that the hospital or doctor can possibly have access to any results that can be connected to you from those tests.

Collection Dates:
From __________ to __________

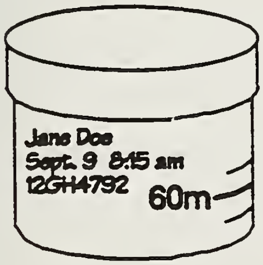
National Pregnancy and Health Survey

Urine Collection
Instructions for Nurses

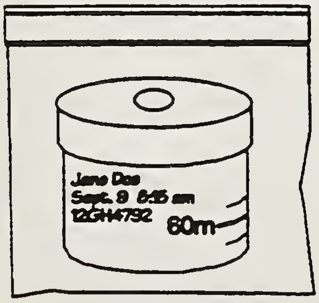
(1) Collect a 60 ml urine specimen from every woman admitted for delivery.



(2) Record Date and Time of Collection, Patient Name, and Hospital ID on every specimen with a waterproof marker. You can write this information on a label or write directly on specimen cup.


Jane Doe
Sept. 9 8:15 am
12GH4792
60m

(3) If specimen must go to lab, place a special mark on specimen cup to alert lab to save remainder for NPHS. Otherwise, place cup in a plastic bag and seal the top.


Jane Doe
Sept. 9 8:15 am
12GH4792
60m

(4) Place all specimens not sent to the lab in the NPHS cooler or in the refrigerator within two hours of collection.

NPHS

NONBLINDED STUDY URINE SPECIMEN TRANSMITTAL

Hospital Number: |__|__|__|

Account Number: |8|2|9|5|6|4|

Test Panel Number: |2|7|2|6|0|9|

Batch Number: |__|__|

Date Shipped: |__|__| - |__|__| - |__|__|

Date Received at Lab: |__|__| - |__|__| - |__|__|

Date Released to Test: |__|__| - |__|__| - |__|__|

WESTAT ID	DATE COLLECTED	TIME COLLECTED	SPECIMEN VOLUME	COMMENTS
		am pm	|__|__|ml	
		am pm	|__|__|ml	
		am pm	|__|__|ml	
		am pm	|__|__|ml	
		am pm	|__|__|ml	
		am pm	|__|__|ml	
		am pm	|__|__|ml	
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		am pm	|__|__|ml	
		am pm	|__|__|ml	

NIH 2722-8 [10/92]

NPHS

BLINDED STUDY URINE SPECIMEN TRANSMITTAL

Hospital Number: |__|__|__|

Batch Number: |__|__|

Account Number: | 8 | 2 | 9 | 5 | 6 | 4 |

Date Shipped: |__|__| - |__|__| - |__|__|

Test Panel Number: | 2 | 7 | 2 | 6 | 0 | 9 |

Date Received at Lab: |__|__| - |__|__| - |__|__|

Date Released to Test: |__|__| - |__|__| - |__|__|

RANDOM ID	SPECIMEN VOLUME	COMMENTS
	|__|__| ml	
	|__|__| ml	
	|__|__| ml	
	|__|__| ml	
	|__|__| ml	
	|__|__| ml	
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	|__|__| ml	
	|__|__| ml	
	|__|__| ml	
	|__|__| ml	

NIH 2722-7 [10/92]

URINE SPECIMEN SHIPPING LOG

URINE SPECIMEN SHIPPING LOG

NATIONAL PREGNANCY AND HEALTH SURVEY

Site	Date Shipped	# Spec. Shipped	Airbill Number	Date Damon Called	# Rec.	Date Traced	Comments

HOSPITAL ID: |__|__|__|

INTERVIEWER ID: |__|__|__|

NPHS

DAILY TEMPERATURE LOG

DATE	TIME (AM/PM)	TEMP	# OF URINES	DATE	TIME (AM/PM)	TEMP	# OF URINES

NPHS
CASE RECORD FOLDER

INFORMATION FROM DELIVERY LOG

DATE OF DELIVERY: |__|__|-|__|__|-|__|__| TIME: |__|__|:|__|__| am pm

EDC: |__|__|-|__|__|-|__|__| # WEEKS GESTATION: |__|__|

C-SECTION.. 1
NORMAL VAGINAL DELIVERY.. 2 # OF INFANTS |__|

BIRTHWEIGHT: |__|__| LBS |__|__| OZ OR |__|__|__|__| GMS

HOW TO SET PREGNANCY WHEEL - Start with STEP 1 to set the pregnancy wheel. If the wheel is set from step 1, skip step 2. If the wheel cannot be set from step 1 or 2, continue with steps on IAQ worksheet.

STEP 1:	CHECK BOX ABOVE	■	IF EDC IS RECORDED ABOVE, SET THE ARROW ON YOUR PREGNANCY WHEEL FOR "APPROXIMATE DATE OF DELIVERY" TO THAT DATE.
STEP 2:	CHECK BOX ABOVE	■	IF BOTH DATE OF DELIVERY AND # WEEKS GESTATION ARE RECORDED, SET THE # WEEKS GESTATION ON INNER WHEEL TO THE DATE OF DELIVERY ON OUTER WHEEL.

FROM PREGNANCY WHEEL

		MO	DA	YR
DATE 1 =	LAST MENSTRUAL PERIOD MINUS 3 MONTHS	|__|__|	|__|__|	|__|__|
DATE 2 =	FIRST DAY OF LAST MENSTRUAL PERIOD	|__|__|	|__|__|	|__|__|
DATE 3 =	WEEK 13	|__|__|	|__|__|	|__|__|
DATE 4 =	WEEK 26	|__|__|	|__|__|	|__|__|
DATE 5 =	DELIVERY DATE (Recorded Above)	|__|__|	|__|__|	|__|__|

WOMEN APPROACHED: YES NO

	CONSENT STATUS			DISPOSITION CODE
	Agree	Do Not Agree	Unknown	
IAQ	1	2	3	|__|__|
SAQ	1	2	3	|__|__|
NONBLINDED URINE	1	2	3	|__|__|
MATERNAL ABSTRACT	1	2	3	|__|__|
INFANT ABSTRACT	1	2	3	|__|__|

URINE SAMPLE COLLECTED: YES NO

	BLINDED	NONBLINDED
ADEQUATE VOLUME?	YES NO	YES NO
SAMPLE PROCESSED?	YES NO	YES NO

CONTENTS OF CRF

	YES	NO	N/A
IAQ	1	2	3
NDF	1	2	3
NRR (PART 1)	1	2	3
NRR (PART 2)	1	2	3

DISPOSITION CODES

CT = COMPLETE/COLLECTED
RF = REFUSAL/BREAKOFF
MS = MISSED/DISCHARGED
LP = LANGUAGE PROBLEM/SPANISH ONLY
HB = HOSPITAL BARRED ACCESS
ON = OTHER NONRESPONSE
OS = OUTSTANDING

CALL RECORD

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<tr><td>INTERIM
01 - Call back,appt. made
02 - Call back, no appt.
03 - OTHER (SPECIFY IN COMMENTS)</td><td>FINAL
CT - Complete Interview
CC - Complete Written Consent
RF - Refusal/Breakoff
MS - Missed/Discharged
LP - Language Problem (Spanish only)
ON - Other Nonresponse</td></tr>
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COMMENTS:____________________
______________________________</td><td>2. DATE:__________ TIME:____ AM PM
COMMENTS:____________________
______________________________</td></tr>
<tr><td>3. DATE:__________ TIME:____ AM PM
COMMENTS:____________________
______________________________</td><td>4. DATE:__________ TIME:____ AM PM
COMMENTS:____________________
______________________________</td></tr>
</table>

NPHS
CASE RECORD FOLDER - HAIR

INFORMATION FROM DELIVERY LOG

DATE OF DELIVERY: |__|__|-|__|__|-|__|__| TIME: |__|__|:|__|__| am pm

EDC: |__|__|-|__|__|-|__|__| # WEEKS GESTATION: |__|__|

C-SECTION... 1
NORMAL VAGINAL DELIVERY.................................. 2 # OF INFANTS |__|

BIRTHWEIGHT: |__|__| LBS |__|__| OZ OR |__|__|__|__| GMS

HOW TO SET PREGNANCY WHEEL - Start with STEP 1 to set the pregnancy wheel. If the wheel is set from step 1, skip step 2. If the wheel cannot be set from step 1 or 2, continue with steps on IAQ worksheet.

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FROM PREGNANCY WHEEL

		MO	DA	YR
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DATE 3 =	WEEK 13	|__|__| -	|__|__| -	|__|__|
DATE 4 =	WEEK 26	|__|__| -	|__|__| -	|__|__|
DATE 5 =	DELIVERY DATE (Recorded Above)	|__|__| -	|__|__| -	|__|__|

WOMEN APPROACHED: YES NO

	CONSENT STATUS			DISPOSITION CODE
	Agree	Do Not Agree	Unknown	
IAQ	1	2	3	|__|__|
SAQ	1	2	3	|__|__|
NONBLINDED URINE	1	2	3	|__|__|
MATERNAL ABSTRACT	1	2	3	|__|__|
INFANT ABSTRACT	1	2	3	|__|__|
HAIR	1	2	3	|__|__|

URINE SAMPLE COLLECTED: YES NO

	BLINDED	NONBLINDED
ADEQUATE VOLUME?	YES NO	YES NO
SAMPLE PROCESSED?	YES NO	YES NO

CONTENTS OF CRF

	YES	NO	N/A
IAQ	1	2	3
NDF	1	2	3
HIR	1	2	3
NRR (PART 1)	1	2	3
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CALL RECORD

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|_|_|-|_|_|-|_|_|	am pm		

RESULT CODES

INTERIM

01 - Call back,appt. made
02 - Call back, no appt.
03 - OTHER (SPECIFY IN COMMENTS)

FINAL

CT - Complete Interview
CC - Complete Written Consent
RF - Refusal/Breakoff
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LP - Language Problem (Spanish only)
ON - Other Nonresponse

APPOINTMENT RECORD

1. DATE:________ TIME:____ AM PM
COMMENTS:____________________
____

2. DATE:________ TIME:____ AM PM
COMMENTS:____________________
____

3. DATE:________ TIME:____ AM PM
COMMENTS:____________________
____

4. DATE:________ TIME:____ AM PM
COMMENTS:____________________
____

INTRODUCTORY SCRIPT

INCLUDING HAIR COMPONENT

Hello, my name is ____________________. I am with Westat, a national health research firm. (AT THIS POINT, THE INTERVIEWER WILL INDICATE THAT SHE HOPES THE PATIENT IS FEELING WELL AND WILL MAKE APPROPRIATE REMARKS ABOUT THE STATUS OF THE BABY IN ORDER TO GAIN RAPPORT.) (GIVE S BABY GIFT.)

We are conducting a survey for the National Institute on Drug Abuse, which is part of the U.S. Public Health Service. The name of the study is the National Pregnancy and Health Survey. I would like to tell you about this study and ask for your participation.

The purpose of the National Pregnancy and Health Survey is to gather information on the behaviors and health practices of women during pregnancy and how these practices may affect the health of newborn babies. It is being conducted in about 60 hospitals across the United States. The survey will provide researchers with important information about the health and medical needs of pregnant women and their newborn babies.

Here is a brochure and a letter about the study. (HAND THE RESPONDENT THE LETTER AND STUDY BROCHURE.) As you can see from the letter, your participation in this survey is completely voluntary and will consist of answering a questionnaire, giving permission for me to cut a small lock of your hair, allowing your urine and hair to be tested for licit and illicit drugs and granting permission to abstract information from your medical record and your baby's medical record. To thank you for allowing us to collect this small amount of hair, you will receive a payment of $5.00. If you do not wish to participate, this will not result in any penalty or loss of benefits to you or your family. You may consent to any, all or none of the components without any penalty or loss of benefits. (ASK RESPONDENT TO TAKE TIME TO READ LETTER OR READ LETTER TO RESPONDENT. ANSWER RESPONDENT'S QUESTIONS. SHOW CERTIFICATE OF CONFIDENTIALITY TO RESPONDENT IF SHE ASKS.)

Now, I would like to obtain some information from you concerning previous pregnancies, and your current pregnancy. The interview will take about 40 to 50 minutes to complete. I will continue now if you agree to participate. (CONDUCT INTERVIEW.)

(AT COMPLETION OF INTERVIEW) Thank you for taking time to complete the interview. As a separate part of this study, we are asking women selected for the National Pregnancy and Health Survey to give written permission to collect a small lock of their hair, to test their urine and hair for medications and other drugs and for their medical record and their baby's medical record to be reviewed. To thank you for allowing us to collect this small amount of hair, you will receive a payment of $5.00. I would like you to read this consent form. (HAND CONSENT.) If you wish, I will read it aloud to you. If you have any questions, I will be glad to answer them.

(After you have read the consent form/After I have read the consent form to you), please check whether or not you agree to hair collection and testing, urine testing and medical record review and sign and date the form.

Hospital: |__|__|__|

Date Hair Shipped: |__|__| - |__|__| - |__|__|, |__|__| - |__|__| - |__|__|

N P H S

STATUS LOG

Interviewer ID: |__|__|__|

			CONSENT (A/R)					URINE STATUS			DISPOSITION (CI, RF, HS, IP, OH)										DATE SHIPPED				
Westat ID	1st Cont. Date / Time	Actual Dischg / Mom/ Inf.	Int. / Date	Urine / Date	MMR / Date	IHR / Date	Hair / Date	Coll. Y/N Date	Blind Y/N Date	Nonbl Y/N Date	IAQ Date	SAQ Date	MMR Rev 1 Date	MMR Rev 2 Date	IHR Rev 1 Date	IHR Rev 2 Date	Hair Date	MSDF Y/N / Date	NDF Y/N / Date	Hair Inv. Y/N / Date	CRF / IAQ	MMR / SAQ	Urine (Blind/ Nonbl.)	Abst. (Mom/ Inf.)	Comments
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			—	—	
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			—	—	
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			—	—	

Hospital ID: |__|__|__|

Interviewer ID/Name: |__|__|__|

Week of ______________

Dates off ______________

NATIONAL PREGNANCY AND HEALTH SURVEY
HOSPITAL REPORTING FORM

DATE										
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
SAMPLE										
(a) # Mothers giving live birth										
(b) # Total sampled										
(c) # Excluded										
(d) # Eligible women										
(e) # Eligible infants										
INTERVIEW										
(a) # IAQ completes										
(b) # IAQ Refused										
(c) # Missed										
(d) # Language (Spanish only)										
(e) # Other nonresponses										
(f) # SAQ completes										
(g) # Nonresponse data form										
URINE										
(a) # Total urines collected										
(b) # Sample urines collected										
(c) # Blinded specimens										
(d) # Consent agree										
(e) # Consent refuse										
(f) # Nonblinded specimens										
(g) # Blinded study forms										
MEDICAL RECORD										
(a) # Mother consent agree										
(b) # Mother consent refuse										
(c) # Infant consent agree										
(d) # Infant consent refuse										
(e) # Mother review 1										
(f) # Mother review 2										
(g) # Infant review 1										
(h) # Infant review 2										
HAIR										
(a) # Consent agree										
(b) # Consent refuse										
(c) # Hair inventory										

This is to verify that I was interviewed by ______________ (initials)
at ________________________ Hospital.

The interview took about ________________ minutes.

____
Signature

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Rockville, MD 20850-9973

Attn: WB337
939625

NIH 2722-12 (10/92)

Por la presente verifico que fui entrevistada por ___________ (iniciales)
en el Hospital ____________________.

La entrevista tomó aproxmadamente ____________________ minutos.

____
Firma

WESTAT ID:

DATE: |__|__| - |__|__| - |__|__|

INTERVIEWER ID: |__|__|__|

NPHS

NONRESPONSE REPORT (NRR) - PART I

1. REASON FOR INTERVIEW NONRESPONSE:

Subject refusal/breakoff	1	(Q2)
Language problem/Spanish only	3	END
Missed/Discharged prior to interview	4	(Q6)
Hospital staff barred access	5	(Q7)
Other nonresponse	6	(Q8)

2. STATE REASON GIVEN BY SUBJECT FOR REFUSAL/BREAKOFF (RECORD VERBATIM).

____

____

____

3. STATE OTHER REASONS FOR REFUSAL/BREAKOFF NOT VERBALIZED BY SUBJECT.

____

____

____

4. WHAT METHODS DID YOU USE TO PERSUADE SUBJECT TO COOPERATE/CONTINUE?

____

____

____

5. STRENGTH OF REFUSAL/BREAKOFF:

Mild, no hostility	1
Firm, but not hostile	2
Hostile	3

6. (IF DISCHARGED PRIOR TO INTERVIEW) HOW MANY HOURS PAST DELIVERY DID YOU FIRST TRY TO CONTACT SUBJECT? HOW MANY HOURS PAST DELIVERY WAS SUBJECT DISCHARGED?

Hours between S delivery/first attempt: |__|__|

Hours between S delivery/discharge: |__|__|

7. (IF HOSPITAL STAFF BARRED ACCESS) STATE REASON GIVEN BY HOSPITAL STAFF FOR BARRING ACCESS. WHAT WAS THE TITLE OF STAFF BARRING ACCESS?

____

____

____

8. (IF OTHER NONRESPONSE) STATE OTHER REASON FOR INTERVIEW NONRESPONSE:

____

____

____

WESTAT ID:

DATE: |__|__| - |__|__| - |__|__|

INTERVIEWER ID: |__|__|__|

NPHS

NONRESPONSE REPORT (NRR) - PART 2

FOR WHICH COMPONENT(S) WERE WRITTEN CONSENT REFUSED?

Urine	1
Maternal abstract	2
Infant abstract	3
Hair	4

URINE (Q1 - 3)

1. (IF URINE REFUSAL) STATE REASON GIVEN BY SUBJECT FOR REFUSAL. (RECORD VERBATIM).

____

____

____

2. (IF URINE REFUSAL) STATE OTHER REASONS FOR REFUSAL NOT VERBALIZED BY SUBJECT.

____

____

____

3. (IF URINE REFUSAL) WHAT METHODS DID YOU USE TO PERSUADE SUBJECT TO TEST URINE?

____

____

____

MEDICAL RECORDS (Q4 - 6)
(SPECIFY MATERNAL/INFANT)

4. (IF MEDICAL RECORD REFUSAL) STATE REASON GIVEN BY SUBJECT FOR REFUSAL. (RECORD VERBATIM).

____

____

____

5. (IF MEDICAL RECORD REFUSAL) STATE OTHER REASONS FOR REFUSAL NOT VERBALIZED BY SUBJECT.

____

____

____

6. (IF MEDICAL RECORD REFUSAL) WHAT METHODS DID YOU USE TO PERSUADE SUBJECT TO ALLOW MEDICAL RECORD REVIEW?

____

____

HAIR (Q7 - 9)

7. (IF HAIR REFUSAL) STATE REASON GIVEN BY SUBJECT FOR REFUSAL. (RECORD VERBATIM).

____

____

____

8. (IF HAIR REFUSAL) STATE OTHER REASON FOR REFUSAL NOT VERBALIZED BY SUBJECT.

____

____

____

9. (IF HAIR REFUSAL) WHAT METHODS DID YOU USE TO PERSUADE SUBJECT TO GIVE AND TEST HAIR SPECIMEN?

____

____

NATIONAL PREGNANCY HEALTH SURVEY
INCENTIVE CHECK LOG

Interviewer Name: ____________ Hospital: ____________

Check #s Issued: ____________ thru ____________

	Westat ID	Date Check Issued
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		

YELLOW COPIES OF RECEIPTS MUST BE INSIDE ENVELOPE

Office Use Only

# of checks issued ____________
# of receipts ____________
# of blank/voided checks ____________

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